ENGAGING LATINO-AMERICAN STUDENTS IN SCHOOL: EVALUATING A CAUSAL MODEL FOR UNDERSTANDING AND PREDICTING ACADEMIC ACHIEVEMENT

By

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Abstract of Dissertation Presented to the Graduate School
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ENGAGING LATINO-AMERICAN STUDENTS IN SCHOOL: EVALUATING A CAUSAL MODEL FOR UNDERSTANDING AND PREDICTING ACADEMIC ACHIEVEMENT

By

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The present research was designed to test a causal model for understanding and predicting the academic success of Latino-American students. The causal model under investigation posits that the student's social context directly influences the self-system (e.g., motivation), which in turn determines student action patterns (i.e., engagement in learning). Only student action patterns directly affect performance outcome (i.e., academic achievement). The causal model was hypothesized to describe the academic success and educational risk behaviors of Latino-American students with two modifications: student action patterns (engagement) were divided into emotional and behavioral aspects, and ethnic identity was added to the model. Latino-American students and their teachers at three nonprofit state-funded Alternative Schools participated in the study. Twenty-two teachers provided observational data regarding 327 (131 Cuban-American, 82 Nicaraguan-American, and 114 other Hispanic) seventh to tenth grade students' self-systems, levels of engagement, and classroom performance. With the assistance of their teachers, 51 Cuban-American students also completed the Rochester Assessment Package for Schools-Student Report (RAPS-S). The RAPS-S includes measures of social context, self-system, and academic engagement. Additional demographic (economic risk, age, sex, and grade) and outcome variables (overall GPA and discipline referrals) were obtained from each student's computerized school record. Separate path analyses supported the predicted relationships for each of the three subgroups of Latino-American adolescents. These findings provide initial support for (1) the application of Connell's process model of motivation to Latino-American students and (2) the importance of student engagement and ethnic identity in determining these students' success.

CHAPTER I
INTRODUCTION

Latino-Americans suffer from the highest drop out rate, the lowest level of college matriculation, and the most severe segregation of any ethnic group in America (Chapa & Valencia, 1993; Pelavin & Kane, 1990; U.S. Department of Commerce, 1991a; Valencia, 1991). Clearly, the current American education system is not adequately meeting the educational needs of Latino-American children. This neglect will likely have widespread social and economic ramifications, especially given that Latino-Americans will become the second largest ethnic group behind European-Americans by the turn of the century (U.S. Department of Commerce, 1990). As a recent review of the current educational status of Latino-Americans concluded, "The continued undereducation of Hispanics will exact a high economic toll for individuals and society" (Sorensen, Brewer, Carroll, & Bryton, 1996, p. 7).

Solutions to the disparate educational attainment of Latinos are widely offered. Educators and researchers have developed numerous programs to address the immediate educational needs of Latino-American children (Carrasquillo, 1991). Unfortunately, because of the pressing need for such programs, most are developed in haste and without empirical underpinnings. The resulting programs, while well-intentioned, have had limited success. To be successful, future solutions must be multifaceted (Reynolds, 1991) and must be implemented on political, social, and educational levels (Meier & Stewart, 1991; Valencia, 1991). Well-developed, empirically based programs are essential to enhance the educational attainment of

Latino-American children. The first step in developing such programs is to empirically identify the specific modifiable variables that contribute to school success for Latino-American students.

Despite the abundant research investigating the determinants of Latino-American student achievement, the bulk of studies have focused on identifying the relationship between academic achievement and specific independent variables. Such studies fail to consider the web-like network of relationships between the numerous variables involved in determining the academic achievement of Latino-American students (Reynolds, 1991; Terenzini & Pascarella, 1979). Variables interrelate to create academic success (Benbow, Arjmand, & Walberg, 1991; MacArthur et al., 1990). Future progress in understanding and predicting academic achievement will be made through research that explores theoretical networks and causal models of academic achievement among minority students (Wood, 1993). Latent structural modeling is a particularly useful tool for uncovering these causal networks (Reynolds, 1991).

A causal model of motivation provides a broad theoretical framework for understanding academic achievement among Latino-American students (Connell, 1991; Connell & Wellborn, 1991; Skinner, Wellborn, & Connell, 1990). Connell and his colleagues proposed the model to explain the relationships among perceived social context, self-system processes, action patterns, and performance outcomes. According to this model, the student's perceived social context (e.g., SES, neighborhood factors, teacher support, parental involvement) directly influences the self-system (e.g., perceived control, motivation) which in turn leads to student action patterns, or engagement in learning (defined as the initiation of action, effort, and persistence and ambient emotions during an academic task). Only student action patterns directly affect performance outcome (i.e., academic achievement) (Connell, 1991; Skinner et al., 1990). Research has consistently supported Connell's path model, depicted in Figure 1, with European-American and African-American students (Connell, 1990; Connell, Spencer, & Aber, 1994; Connell & Wellborn, 1991; Skinner, Wellborn, & Connell, 1991).

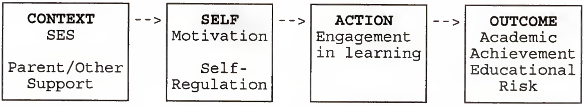

Figure 1. Connell's Causal Model of Academic Achievement with Variables Suggested by Literature.

Connell's model may be particularly applicable to other minority students. Previous models have relied on traditional measures of outcome (GPA and standardized test performance) which are controversial gauges of minority student achievement. In Connell's model, student engagement--as evidenced in their attendance, study skills, satisfaction, etc.--is an essential variable which precedes and determines culturally defined measures of outcome (GPA, test scores). For some programs, eliciting student engagement may be the ultimate goal. Engagement in school may be particularly important for minority students--especially students who were extracted from their country of origin and/or from rural settings and moved to foreign urban schools. Studies have suggested that Connell's model is applicable to African-American students; it has yet to be tested on Latino-American students.

The goals of the present study were threefold: (1) to test a causal model of motivation (Connell, 1991) for understanding and predicting Latino student performance, (2) to explicate the engagement aspects of Connell's model, and (3) to assess the need for an additional variable, ethnic identity, in explaining Latino-American student achievement. The present research was also designed to address the need for culture sensitive research with Latino-American students. Thus, this research avoids using European-American samples as standards for comparison, uses research instruments appropriate for Latino-Americans, and recognizes and respects the different subgroups of Latino-Americans among whom there is cultural diversity.

Seventh to tenth grade "at risk" students and their teachers at three nonprofit state-funded Alternative Schools in Miami, Florida, participated in the study. Teachers ($\underline{n}$=22) provided observational data regarding 327 students' (131 Cuban-American, 82 Nicaraguan-American, and 114 other Hispanic) self-systems, emotional engagement, behavioral engagement, and academic performance. With the assistance of their teachers, 51 Cuban-American students also completed the Rochester Assessment Package for Schools-Student Report which includes culture sensitive

measures of three of the four constructs in Connell's model: (1) *context variables* such as perceived parent and teacher support; (2) *self variables* such as self-efficacy and self-regulation; and (3) *action variables* such as affective, behavioral, and cognitive engagement. Additional demographic variables (e.g., economic risk, sex, age, and grade) and outcome variables (e.g., overall GPA and discipline referrals) were obtained from each student's computerized school record.

Two hypothesized path models were tested, an Academic Success and an Educational Risk model. The variables described above were analyzed in separate path analyses for each of the three subgroups of "at risk" Latino-American adolescents. The hypothesized Academic Success and Educational Risk path models were confirmed. Results revealed strong relationships among the variables as predicted by Connell's model. In particular, engagement had large direct effects on all outcome variables. For the Cuban-American and the other Hispanic-American groups, affective engagement preceded behavioral engagement in paths to both academic success measures (i.e., overall GPA and teacher-rated achievement). For Nicaraguan-American students, behavioral engagement mediated between emotional engagement and overall GPA but not teacher-rated achievement. Increasing school satisfaction and enjoyment for the students in this study may be a crucial step toward improving their educational prospects. Additionally, ethnic identity emerged as an important construct that may enhance Connell's model when applied to Latino-American students. Ethnic identity had significant direct effects on both student engagement and educational risk.

Latino-American students in this study may benefit from curriculum designed to strengthen their ethnic identity.

CHAPTER II
REVIEW OF THE LITERATURE

Demographics and Educational Status of Latino-Americans

Population Size and Growth

The term Latino-Americans refers to an aggregation of numerous subgroups: Mexicans, Puerto Ricans, Cubans, Central and South Americans, and other Latinos. The term "Latino" has grown in preference in recent years, yet many Latino- or Hispanic-Americans still prefer the term "Hispanic." Chapa and Valencia (1993) recommended that the terms be used interchangeably to reflect these varying preferences. In the present paper, both terms will be used.

At the time of the 1990 Census, 22.4 million persons of Hispanic origin resided in the United States constituting approximately 9% of the total population--an increase of 53% from the 1980 census (U.S. Department of Commerce, Bureau of the Census, 1991b). Referring to the growth of the Latino-American population, the Census report (U.S. Department of Commerce, Bureau of the Census, 1990) concluded:

> The total American population has not grown so quickly for a century or more. Even at the height of the most dramatic periods of population growth in American Demographic history, the population growth of the United States was only 1.8 percent a year . . . the Hispanic population growth (3%) would not decline to that level for 30 years. (p. 10)

The rapidly growing Latino youth population will account "for most of the overall (youth) population growth expected between 1982 and 2020" (Pallas et al., 1989; p. 19). The dramatic growth rate of the Latino-American population is expected to continue well into the 21st century and will occur across preschool children, school-age children, college-age youth, and the general population (U.S. Department of Commerce, Bureau of the Census, 1986). By the year 2000, Latinos will be the most populous minority group in the United States (U.S. Department of Commerce, Bureau of the Census, 1990).

Mexican-Americans represent 60.4% of the total Latino population and predominantly reside in the Southwest and the Midwest. Puerto Rican Americans, who are primarily concentrated in the Northeast, comprise 12.2% of the Latino population. Cuban-Americans, 4% of Latinos, primarily live in the Southeast. The other Hispanic category, which subsumes all other Latino groups, represents 22.8% of the total Latino population. Persons in this latter category predominately live in areas with a large percentage of Latino residents.

The highly urbanized Latino population is aggregated in relatively few states and cities in the nation (Chapa & Valencia, 1993). Sixteen metropolitan areas account for more than two-thirds of all Latinos (Chapa & Valencia, 1993). This urban concentration may have important educational and policy implications according to Chapa and Valencia (1993). In the least, it suggests that research and interventions may have the most impact in urban areas.

Socioeconomic and Educational Status

Despite the optimism for Latino prosperity in 1980--a period proclaimed to be the "Decade of the Hispanic"--the decade evidenced widespread decline in the economic and education status of Latino-Americans relative to other ethnic groups in the United States. Twenty-six percent of Latino-Americans live in poverty, which is a poverty rate more than double that of non-Latino groups (Carrasquillo, 1991). Poverty increased 33.3% among Hispanics from 1973 to 1992 while median family income dropped during the same time period (U.S. Department of Commerce, 1993). In 1992, 39.9% of Latino children lived in poverty.

Despite some advances in Hispanic educational attainment during the 1980s, high school completion rates remain low. Only one in two Latino-Americans complete high school compared to 80% of non-Latinos (U.S. Department of Commerce, 1991a). High school dropout rates will continue to increase, particularly among minority students, as schools raise academic requirements for graduation (McDill, Natriello, & Pallas, 1985; U.S. Department of Commerce, 1991a).

Individual's who fail to complete high school experience numerous negative consequences including unemployment or underemployment, low-paying jobs, low social status, and exclusion from society and its institutions (Reyes & Jason, 1983; Sternberg, Blinde, & Chan, 1984; Tidwell, 1988). Additionally, the National Commission on Children (1991) concluded, "Dropouts are 3.5 times more likely as high school graduates to be arrested" (p. 33). Minority persons who drop out of high school encounter more racial discrimination, greater family and peer disapproval, and lower self-esteem compared to those who persist in high school (Tidwell, 1988).

Numerous societal consequences result from school drop out as well (Levin, 1972). Societies with high drop out rates receive lower tax revenues to fund government services, increased need for social services, higher crime rates, reduced public health, and lower political participation (Levin, 1972). In addition to reducing crime rates, efforts to retain more students in high school will have a long-term positive impact on the economy. For instance, raising high school completion rates of Hispanic-American students to the rate of other ethnic groups "would generate increases (in income tax revenue) exceeding $13 billion each year" (Sorenson, Brewer, Carroll, & Bryton, 1996, p. 6).

College matriculation and completion rates for Latino-Americans are as gloomy as the high school statistics. Forty-five percent of Latinos attend college within four years of high school completion (Pelavin & Kane, 1990), yet only 9% of Latinos attain their bachelor's degrees compared to 22% of non-Latinos (U.S. Department of Commerce, 1991a). Also, the Hispanic share of college degrees conferred each year decreases with advancing degree level--for instance, Hispanic students earn over 5% of all associate degrees conferred each year but less than 3% of doctoral degrees (Pelavin & Kane, 1990).

Educational and economic status vary across the various Latino groups. Mexican-Americans have the lowest high school (44%) and college (5%) completion rates. "Other Hispanics" (69%) have the highest high school completion rate;

Cuban-Americans (20%) have the highest college completion rate (Carrasquillo, 1991). Tienda (1996) suggests research is needed urgently to understand these disparities in educational attainment.

Barriers to Education

Segregation has increased among Latinos over the past 20 years. In 1984, 31% of Latino students--an 8% increase compared to 1968--attended schools in which nine out of ten students were minorities (Orfield, 1988). Segregation's negative impact on academic achievement has been well-documented (Donato et al., 1991; Orfield, 1988; Valencia, 1984). Valencia (1984) found a strong negative correlation between achievement scores and percent Chicano enrollment in nine Phoenix high schools. As the percentage of minority students in each school's student body increased, student achievement decreased. The lack of college preparatory courses at segregated schools may also account for the low college matriculation rate among Latinos (Orum, 1986).

Aside from segregation, Latino-Americans also experience more subtle forms of discrimination which may deny access to equal educational opportunities (Meier & Stewart, 1991). Academic grouping (i.e., special education, ability or curriculum tracking, and separated bilingual education) and discriminatory discipline practices encourage Latino-American failure and/or school drop out (Meier & Stewart, 1991).

Researchers have linked numerous other factors with Latino-American school failure. For example, the large, robust, positive relationship between SES and academic achievement has been demonstrated across countries (Persell, 1977) and cultures (Laos & Henderson, 1991). Additional factors in Latino-American student failure include social pressures, teenage pregnancies and marriage, lack of interest in school, employment pressures, inadequate home learning environment, and low internal locus of control and self-concept (MacArthur, Bedenbaugh & Leonard, 1990; Banks, 1988; Calabrese, Miller, & Dooley, 1988).

Given the poor economic status of many Hispanic families, the low academic success of many Latino-American children is not surprising. Clearly, policy changes are necessary to enhance the economic success of Latino groups. The enormous growth of the Latino youth population suggests that immediate and impactful changes in Latino-American education are essential.

Latino-Americans and Academic Success

Despite the gloomy statistics and the barriers to education facing them, many Latino-American's succeed at all levels of academics (Bean & Tienda, 1987; Gordon, 1996; Okagaki, Frensch, & Gordon, 1995; see Stavans, 1995; Wood, 1993). For instance, in 1988 over 25% of Hispanic-American high school students enrolled in higher education (WICHE, 1991), and 45% attended college within four years of receiving their high school degree. In addition to understanding factors that contribute to school failure, it is essential to identify determinants of school success (Connell et al., 1994). Understanding factors that contribute to success is important for identifying academic performance enhancement skills that can be taught to all students (Reyes & Jason, 1993).

Despite the limited literature addressing academic performance enhancement skills, researchers have identified possible factors that may contribute to Latino-American student success. These factors include conformity, self-efficacy, and social/familial support. Compared to students who drop out, successful students tend to be less critical of their institutions (Fine & Poserber, 1983). Students prone to drop out complained about their teachers, principals, and unfair treatment. Some researchers have attributed this difference to the greater willingness of successful students to conform (Delgado-Gaitan, 1988). However, Reyes and Jason (1993) found that successful Latino-American students complained as much--though in a qualitatively different manner--as unsuccessful Latino-American students. Rather than complaining about unfair personal treatment, successful students complained about the unfair treatment of their peers. Self-efficacy or perceived control may be the moderating variable--drop outs may feel unable to influence their future and choose to blame others for failure. Resilient Latino youth, those who mature and thrive despite dire life circumstances, have higher efficacy beliefs in their cognitive abilities than do their less resilient peers (Gordon, 1996).

Need for Educational Engagement

Hispanic students in urban settings are particularly vulnerable to school failure (Reyes & Jason, 1993). These students encounter many barriers to success. Many Hispanic youth have been extracted from their country of origin--often from rural settings--and moved to fast-paced foreign cities. These students need positive experiences to be successful. They need also to establish connections with others.

Bonding or engagement in their education and with their school and teachers is essential (Goodenow & Grady, 1993). Resilient students are supported by their school environments (Gordon, 1996). As Goodenow and Grady (1993) noted:

> The especially strong association between belonging and (achievement) motivation . . . for Hispanic students may reflect the importance that most Hispanic cultures attach to communal and affiliative values as opposed to individualist or competitive values. (p. 69)

The Status of Research on Latino-Americans

Culture-Specificity

As noted earlier, the words Latino and Hispanic are used to refer to a heterogenous group of cultures including Mexicans, Puerto Ricans, Cubans, Central and South Americans, and other groups of Spanish-origin. These groups share two similarities: a history of Spanish conquest and culture and their use of the Spanish language (Melville, 1988). Aside from nationality differences, large sociocultural differences exist among these groups with regard to language and cultural traditions, immigration and settlement history, demographic and economic status, and self-perceptions (Carrasquillo, 1991).

In his review of literature concerning minority drug use, Trimble (1990-1991) concluded that research with minority populations typically has poorly defined samples. In particular, persons of Hispanic heritage are often lumped in overly general groups (e.g., Latino) without respect for the enormous diversity subsumed under the labels (Oboler, 1995):

> The term [Hispanic] fails to recognize the extremely rich ethnic and racial diversity of Latin Americans, for example, Argentines of Italian, German, or French descent; Mexicans of Irish or Japanese ancestry; Cubans with Spanish, Lebanese, African, or Chinese forebears; Peruvians of English, Russian-Jewish, or Inca lineage; Venezuelans of Polish or Uruguayan stock; Brazilians of Korean or Greek heritage--the varieties go on and on. And, of course, there are those many Latin Americans who are entirely or partly of African and American Indian ancestry with some of the above thrown in. (Mora, 1985, p. 28)

Trimble (1990-1991) suggested that future research should consider relevant background variables such as generational history, nationality, and demographic characteristics (e.g., SES, educational attainment, and migration history). Likewise, Tienda (1996) considers ethnic and racial status as essential variables for understanding Latino-American academic achievement.

In the present study, the data from two groups of Latino-Americans were gathered and separately analyzed: Cuban-Americans and Nicaraguan-Americans. A third group composed of a mixed group of Latino-Americans was also analyzed to test the importance of separate analyses.

Difference Model Research Approach

The present study design also was consistent with the Difference Model research approach recommended by Oyemade and Rosser (1980). Traditional research on minority populations has explained differences between European-Americans and minorities through the "deficit hypothesis"--that conditions of poverty and low SES have acted to create performance deficits among minority groups compared to European-Americans. Instead, Oyemade and Rosser (1980) argued that the interpretation of behavior and performance must be understood in the cultural context in which it occurs. Variability in behavior across cultures should simply be viewed as differences, not deficits. Thus, they argued, research should compare minority behavior and performance within minority groups rather than across races. Within group differences yield valuable information regarding skills and behaviors that differentiate successful from unsuccessful Latino-American students (Connell, Spencer, & Aber, 1994).

A research and intervention project similar to the present study has been successfully conducted with African-American students and their parents and teachers for the purpose of boosting academic achievement and reducing maladaptive behaviors among African-American students. This project, which was developed by the present dissertation chairperson, resulted in a nationally recognized intervention program called the Research-Based Model Partnership Education Program (Tucker, Chennault, Brady, Fraser, Gaskin, Dunn, & Frisby, 1995). This Model Program is community-based and is in its seventh year of operation in Gainesville, Florida. It is now serving as both a research-based intervention program for students and a training program for preparing teachers in Florida to more effectively teach African-American children. Florida's Department of Education is currently evaluating the Model Program for statewide replication.

The success of the culture-sensitive Model Partnership Education Program for African-American children provides support for the development and implementation of culturally sensitive interventions to meet the education needs of culturally different students in general and "at risk" culturally different students in particular. Because the academic, psychological, and social success challenges of African-American children and Latino-American children include significant differences as well as some major similarities, the Model Program for African-American children cannot simply be used with Latino-American children. Instead, empirical research for developing interventions to facilitate the academic and psychosocial success of Latino-American students is needed.

Need for Causal Models for Predicting Academic Success

Despite the abundant research investigating the determinants of Latino-American student achievement, the bulk of studies have focused on identifying the relationship between academic achievement and specific independent variables. Such studies fail to consider the web-like network of relationships between the numerous variables involved in determining the academic achievement of Latino-American students (Reynolds, 1991; Terenzini & Pascarella, 1979). Variables interrelate to create academic success (Benbow, Arjmand, & Walberg, 1991; MacArthur et al., 1990). According to Terenzini & Pascarella (1979):

> Unless the designs of future research are sensitive to (the interrelation of variables) . . . they will yield only a partial oversimplified picture of what seems to be a highly complex set of dynamics. (p. 47)

Future progress in understanding and predicting academic achievement will be made through research which explores theoretical networks and causal models of academic achievement among minority students (Wood, 1993). Lohnes (1979) concluded his review of factor modeling with the following endorsement:

> Human behaviors are modified in ways which are educational because a large number of factors converge to produce changes in the organization of

> behavioral potentials of the student . . . Analysis of the push and pull of the several and many causes upon the student is needed to predict in what direction and how far the student will move on the criterion dimension . . . and to estimate the contribution of each causal factor to change. (p. 325)

Path analysis is a particularly useful tool for uncovering these causal networks (Reynolds, 1991). Path analysis, an extension of multiple regression, allows a researcher to "test a theory of causal order among a set of variables" (Klem, 1995; p. 65). Based on existing literature, a researcher must first develop and elaborate a comprehensive theory about the causal relationship among the variables under consideration. The theory is depicted in a path diagram, a concise statement of the study's hypotheses. The path analysis then specifies each variables' direct and indirect effects on other variables in the model. Path analysis has stringent assumptions (see Klem, 1995):

> It is helpful to think of meeting assumptions as one of degree. . . . Are the variables, if not perfectly measured, measured well? Is the model, particularly with respect to the variables included and omitted, close enough to the probably correct model to merit attention? (p. 90)

Path Analysis of Latino-American Academic Achievement

Consistent with this view of multifaceted determinants of academic achievement, Wood (1993) conducted a path analysis of data from the National Center for Educational Statistics Longitudinal Study which included 6,481 eighth grade students of minority status (Hispanic-Americans, Asian-Americans, and African-Americans) and their parents. In this study, academic achievement was defined as a composite score of student performance on standardized science, reading and math, and history/government tests. Hispanic-American students in this study included students of Mexican, Puerto Rican, Cuban, Central and South American, or other Spanish culture or origin.

Wood (1993) identified five explanatory variables with meaningful direct effects on the academic achievement (i.e., standardized test scores) of Latino-American students: (1) ability--students' mathematics, science, social studies, and English grades during grades 6-8; (2) motivation--a composite score of students' career and educational goals, school attendance and behavior, and locus of control; (3) SES--parents' occupation and level of education and annual family income; (4) family educational values--a composite of parental participation, interest, and financial planning of their child's education; and (5) quality of instruction--students' perception of their teachers' interest and attitude toward them. The variables in this study accounted for 33% of the variance. Ability (total effect size = .43), motivation (.29), and SES (.31) were the most potent explanatory variables of Hispanic-American student performance as well as the most consistent variables across all three groups of minority children (Latinos, Asians, and African-Americans). Perhaps indicative of the complexity of academic achievement, even this comprehensive model failed to account for 67% of the total variance.

Several study limitations also help to explain this low level of variance explanation. First, the study lacked a clear conceptual basis, a fundamental assumption of path analysis. Wood's (1993) guiding path model was purely data-driven. In addition to data-based selection of variables, the present study relied on a well-developed theory to guide path model construction.

Second, the narrow definition of academic achievement (standardized test performance) in Wood's (1993) study may not have provided an accurate picture of Latino students' academic performance. The present study used a broader definition of outcome to include academic achievement, as evidenced by overall GPA and teacher observation, and educational risk behaviors such as discipline referrals and self-reported problem behaviors (e.g., gang involvement, drug use, and other criminal activities).

Third, the Wood (1993) study utilized some outdated and potentially irrelevant measures of student motivation. For instance, perceived competence (or self-efficacy) is a more robust predictor of minority student performance than locus of control, used in Wood's study (Gerardi, 1990; Schunk, 1985). Additionally, Western career and educational goals--other variables in Wood's study--may not be relevant for Hispanic students. To accommodate for these limitations, the present study utilized measures that have been validated with Latino-American populations. Again, the selection of measures was guided by a theoretical model of motivation.

Theoretical Model: Connell's Process Model of Motivation

Motivation and Academic Achievement

Self-determination--"a sense of choice in initiating and regulating one's own behavior (Deci, Connell, & Ryan, 1989, p. 580)"--has been linked to enhanced creativity (Amabile, 1983), conceptual learning (Benware & Deci, 1984), self-esteem (Deci, Schwartz, Sheinman, & Ryan, 1981), and general well-being (Langer & Rodin, 1976). Because of the widespread applicability and intuitive appeal of the self-determined construct, researchers have attempted to delineate the factors related to self-determined behavior (Deci, Connell, & Ryan, 1989).

An increasing literature on the importance of purposive, goal-directed behavior has emerged in recent years (Erez & Erad, 1986; Lese & Robbins, 1993; Pervin, 1989; Wadsworth & Ford, 1983). Focusing on goal-directed behavior to initiate behavior change is more empowering than focusing on factors that are external to the individual. Based on the findings in his study, Wood (1993) recommended that "motivation of minority students should be carefully undertaken and not left to families that might be dysfunctional, nor to a child who might lack the necessary skills for self motivation" (p. 156). The present study attempted to delineate the aspects of motivation that are significant predictors of Latino-American academic achievement.

Connell's Process Model of Motivation

A general process model of motivation provides a broad theoretical framework for understanding academic achievement among Hispanic students (Connell, 1991; Connell & Wellborn, 1991; Skinner, Wellborn, & Connell, 1990). Connell and his colleagues proposed the model to explain the relationships among perceived social context, self-system processes, patterns of actions, and performance outcomes. According to this model, the student's perceived social context (e.g., teacher support, parental involvement) directly influences the self-system (e.g., perceived competence, autonomy, and relatedness) which in turn leads to student action patterns (that is, engagement in learning defined as the initiation of action, effort, and persistence and ambient emotions during a task as evidenced by student attendance, satisfaction with school, study behaviors, interest in learning, etc.). Only student action patterns directly affect performance outcome (i.e., academic achievement) (Connell, 1991; Skinner et al., 1990). Abundant research supports Connell's path model, depicted in Figure 2 (Connell, Halpern-Felsher, Clifford, Crichlow, & Usinger, 1995; Connell, 1990; Connell, Spencer, & Aber, 1994; Connell & Wellborn, 1991; Skinner, Wellborn, & Connell, 1991).

Connell's process model of motivation explains a wide variety of discrepancies in the education literature. For instance, the inconsistent correlations reported between parental support (context variable), acculturation (self variable), or intrinsic orientation (self variable) and academic achievement make sense when context and self variables are viewed as indirect contributors to achievement.

Applicability of Connell's model to minority populations. Because of its emphasis on the social context, Connell's model may be applicable to minority populations. Several features of Connell's model make it useful for understanding the academic achievement of Latino-American students including its emphasis on (a) meaning-making in the etiology of risk, (b) the dynamic and adaptive quality of the self-system, (c) the interaction between student action and the social context, and (d) evaluating positive as well as negative outcomes (Connell et al., 1994; Ogbu, 1986, 1992).

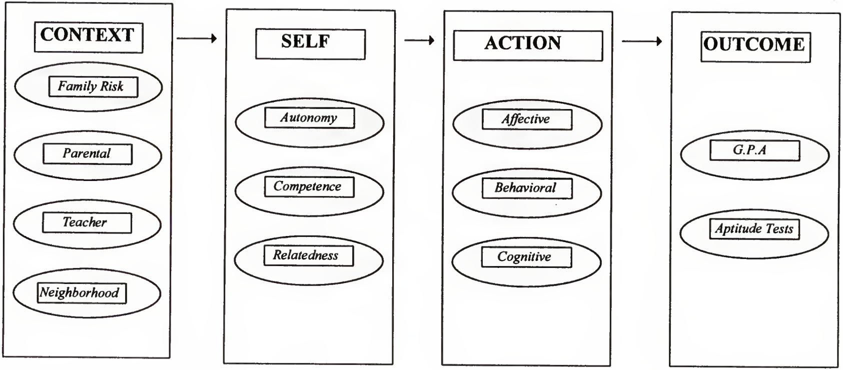

Figure 2. Context, Self, Action, and Outcome Variables in Connell's Process Model of Motivation.

By recognizing the impact of external social and political factors, Connell's model is consistent with the identity and cultural ecology model (IC-E) (Ogbu, 1986, 1992). The social and political context of education in the U.S. clearly impacts the academic achievement of minority students (Ogbu, 1986, 1992). IC-E posits that the majority culture imposes external limits on person's from minority cultures ability to succeed in economic, social, professional, and political activities (Ogbu, 1986, 1992; Okagaki, Frensch, & Gordon, 1995). Majority culture policies limit persons from minority cultures access to educational opportunities and benefits. In response to these limits, minority persons often reject their relegated status and develop coping strategies. IC-E focuses on ways that these realistic responses to oppression may actually inhibit minority persons' achievement even further. For instance, non-majority parents may undervalue education because they do not believe education can negate political and social biases in the U.S. (Okagaki et al., 1995).

Connell's model also includes notions of another dominant model of minority development, Context Specific (CS) explanations (Delgado-Gaitan, 1992). Delgado-Gaitan (1992), a CS advocate, argues that the cultural context effects social and cognitive development. Cultural differences lead to different cognitive and social behaviors. In this model, lack of knowledge or inappropriately applied knowledge leads to academic shortcomings. IC-E and CS explanations are not mutually exclusive--both models may be needed to explain the academic achievement of Latino-American students (Okagaki et al., 1995).

Empirical evidence. Research supports the application of Connell's model to minority populations. In their investigation of factors associated with success of Latino-American students, Reyes and Jason (1993) concluded that multilevel influences contributed to Hispanic student drop out. They suggested that individual, social, and contextual factors be included in future models of Latino student achievement.

Connell et al. (1994) conducted correlational and path analyses among a large sample of African-American students across the U.S. The authors utilized three data sets that were gathered from 552 sixth-eighth grade students in Atlanta, 399 seventh-ninth grade students from New York, and 114 fifth-sixth and eighth-ninth grade students from New York, Boston, and Washington DC. In this study, Connell defined (a) context as parental involvement, (b) self as perceived competence and relatedness, and (c) engagement as emotional and behavioral involvement. Nearly all recursive path models, based on Connell's conceptual framework, were statistically significant suggesting that the model is applicable to minority students. Connell et al. (1994) concluded:

> African-American youth's experiences of their family's support for them, of their own sense of control over their success and failure in school, and their feelings of self-worth and emotional securities with others are regulating their actions in school over and above the influences of their family's and their neighborhoods economic conditions and their gender. (p. 503)

Engagement and academic achievement. An additional benefit of Connell's model is that it offers a clear conceptualization of academic achievement. Many teachers and researchers feel that current definitions of academic achievement overly focus on GPA and standardized test scores which offer controversial measures minority student achievements. On the other hand, in the United States GPA and test scores are used to make important decisions about students (e.g., college acceptance/denial, financial aid, etc.). The debate centers around whether GPA and standardized test performance are true measures of success. Many argue that school attendance, study skills, and student satisfaction are important components of success as well.

Connell's model brings some clarity to this issue. In this model, student engagement--as evidenced in their attendance, study skills, satisfaction, etc.--is an essential variable which precedes and determines culturally defined measures of outcome (GPA, test scores, problem behaviors). For some programs, eliciting student engagement may be the ultimate goal. For instance, Connell et al. (1995) concluded that "(African-American) males' engagement in their school work in junior high school has long-term benefits over and above its relations with contemporaneous education performance and adjustment indicators" (p. 58).

Engagement in school may be particularly important for minority students (Goodenow & Grady, 1993)--especially students who were extracted from their country of origin and/or from rural settings and moved to foreign urban schools.

Goodenow and Grady (1993) reported a stronger association between engagement, or school belonging, and achievement motivation among Latino-American students than among European-Americans or African-Americans. The researchers attributed the importance of engagement to the communal and affiliative values that are common across most Latino cultures.

Modifications for Latino-American students. Despite its potential utility, Connell's model can be improved with some modifications for Latino-American students suggested by the education literature. First, because of its importance for predicting outcome among Hispanic-American students, the engagement construct warrants further explication. Connell's model emphasizes behavioral, cognitive, and emotional components of engagement (i.e., the initiation of action, effort, and persistence and ambient emotions during a task). These three processes presumably occur simultaneously in response to self-system activity. However, affective aspects of engagement (e.g., liking school) may precede behavioral engagement (attending class) (Goodenow & Grady, 1993). Given past evidence supporting the importance of school satisfaction and emotional bonding for Latino students (Goodenow & Grady, 1993), distinguishing emotional and behavioral aspects of engagement may have important curriculum and policy implications.

Second, the present study included an additional self construct, ethnic identity, that may be a particularly salient predictor of Latino-American student achievement.

Ethnic identity is an important aspect of Latino-American student identity and self-esteem (Phinney, 1992). Because most students in the present study had experienced recent challenges to their identity and recent stressors (relocation, school failure, inner city lifestyle), an ethnic identity measure may be helpful in understanding their school success. The following section (Variables in the Process Model of Motivation as Adapted for Latino-American Students) describes other context, self, action, and outcome variables that may be important in the academic success of Latino-Americans.

Variables in the Process Model of Motivation as Adapted for Latino-American Students

Social Context

Social context refers to external factors in the student's environment that influence academic achievement. Particularly important social context variables for Latino-American students include demographic and context factors.

Demographic variables. Five demographic variables were included in the present study: age, sex, grade, preferred language, and economic risk. In Connell's model, these variables are presumed to impact academic achievement indirectly through their influence on parent and teacher context variables.

In particular, economic risk, or socioeconomic status (SES), is among the most consistent predictors of Latino student performance (Schultz, 1993; Sternberg, Blinde, & Chan, 1984; Velez, 1989; Wood, 1993). Low SES is indicative of family economic risk. Across numerous settings and populations, nearly every study has found that students from low SES strata (i.e., from families of high economic risk) are more likely to drop out of school than their more economically advantaged peers (Sternberg et al., 1984). For instance, Wood (1993) identified SES as one of 3 variables with a direct effect on academic achievement. In his investigation of the academic achievement of 130 minority students, Schultz (1993) identified SES as a significant mediator of academic performance. However, given that Hispanic drop out rate is higher across all SES categories relative to other ethnic groups (Sternberg et al., 1984), Hispanic academic achievement or failure cannot be attributed only to economic disadvantage. In fact, the impact of SES on academic achievement may be accounted for by modifiable aspects of the home environment such as parental support and involvement and the home cognitive environment (Velez, 1989).

In the present study, family economic risk was defined as each student's level of eligibility for the free- or reduced-lunch program. Eligibility for this program is determined by government guidelines which serve as a marker for family poverty.

Context. Context factors include parent context and teacher context. Parent context refers to variables such as perceived parental support and parental school involvement. Abundant research suggests that parental behaviors are important predictors of academic achievement (Wood, 1993). While some studies support this general contention for Latino-American children (Lopez, 1993; Okagaki, Frensch, & Gordon, 1995; Wood, 1993), few have specified the most important familial traits. Given the strong family unit in Latino cultures (Carrasquillo, 1991), parental behaviors/beliefs are likely important in Latino-American student success.

Okagaki et al. (1995) studied the beliefs of parents of 33 high achieving and 49 low achieving Mexican-American fourth and fifth grade students. Parents of high achieving students were more likely to (a) report disappointment with Cs and Ds, (b) feel that they could help their children in academic pursuits, and (c) model reading skills for their children. Okagaki et al.'s (1995) findings supported both I-CE (Ogbu, 1986, 1992) and Context Specific (Delgado-Gaitan, 1992) explanations of parental expectations.

Successful Hispanic-American students receive qualitatively different social and emotional parental support than less successful students (Delgado-Gaitan, 1988). Clark (1984) and Comer (1988) concluded that family interpersonal dynamics were critically important contributors to academic achievement in minority children. Consistent with Connell's motivation model used in this study, parent context may exert its primary effect on school success by shaping academic achievement motivation (Clark, 1984; Comer, 1988). According to Cassidy and Lynn (1989), "Parental encouragement seems to predict educational attainment . . . through the mediation of the achievement motivation factor of status aspiration" (pp. 11-12). Parents promote student achievement motivation by (a) establishing high performance standards, (b) emphasizing the relationship between school success and life success, and (c) encouraging and modeling school-related skills (Okagaki et al., 1995).

In the present study, student self-report on the Rochester Assessment Package for Schools-Student Report (RAPS-S; Wellborn & Connell, 1987) provided a measure of perceived parent context along three dimensions: (1) perceived parental involvement, (2) perceived parental autonomy support, and (3) perceived parental structure. These three parent context dimensions contributed to an aggregate Context score for each student (Connell et al., 1995).

Teacher context includes perceived teacher support and quality of instruction. Research has consistently implicated teacher context as an important factor in academic achievement (Cooper & Tom, 1984; Keith & Cool, 1988; Walberg, 1984). In their path analysis study using a sample of 25,875 students, Keith & Cool (1988) found that teacher quality had a significant impact on achievement (total effect=.082). Teacher quality directly and indirectly affects achievement through coursework and study behaviors--i.e., high quality teaching motivates students to enroll in harder courses and to study harder leading to academic achievement (Keith & Cool, 1988). Walberg (1984) identified the following instructional quality factors to be most important: (a) reinforcement of successes, (b) accelerated learning, to challenge without excessive frustration, (c) reading training, (d) cues and feedback, and (e) science mastery training.

Research also has emphasized the importance of cultural sensitivity in effective teaching contexts (Gilbert & Gay, 1985). In particular, the Quality Education for Minorities Project (1990) identified poor instructional quality as the primary contributor to the inadequate education of Hispanic-Americans. The report concluded that the American education system has failed to teach many Hispanic-American children the skills necessary to be successful, contributing members of society. The Educational Research Service (ERS) (1991) identified several facets of cultural sensitive instruction: (a) teacher flexibility to match the cultural traits and needs of students, (b) high teacher expectations, and (c) confidence in student abilities. Both teacher contingency and teacher involvement are important factors in academic achievement (Skinner et al., 1990).

Perceived teacher support was assessed through student responses on the RAPS-S. Nineteen statements on the RAPS-S pertain to perceived teacher support which includes perceived teacher involvement (i.e., perceived degree of teacher's knowledge about, interest in, and emotional support for the student), perceived teacher autonomy support (i.e., promotion of choice and connectedness between actions and individual goals), and perceived teacher structure (i.e., perceived amount, clarity, and quality of information regarding the teacher's expectations and consequences). A Context index was computed for each student by averaging the parent context and teacher context scores.

Self-System

Connell's conception of the self-system represents an effort to integrate cognitive, social, and motivational theories of the self. He refers to the self-system as "a set of appraisal processes whereby the individual evaluates his or her status within particular contexts with respect to three fundamental psychological needs: competence, autonomy, and relatedness" (Connell & Wellborn, 1987; p.51). The self-system develops out of the interaction between an individual's needs and their unique social context (Connell & Wellborn, 1987). To the extent an individual's psychological needs are satisfied, engagement and action in an activity (in this case, schoolwork) results.

Similar to the context construct, the self-system is multidimensional in Connell's model of academic achievement. Previous research could not explain engagement with only one self component (Skinner et al., 1990). Connell and Wellborn (1991) delineated three aspects of the self-system: perceived competence, perceived autonomy, and perceived relatedness. In the present study, a fourth self-system construct was added, ethnic identity, because of its presumed importance for Hispanic-American students.

Perceived competence. Perceived competence refers to "the sense that doing well in school is possible and that there are known and workable strategies for achieving success and avoiding failure in school" (Connell & Wellborn, 1991; p. 58). Perceived competence is determined by two abilities/components: (a) knowledge of strategies for achieving success in school and (b) perceived capacities or beliefs that one can execute the success strategies. According to Connell's model, successful students must possess strategies and beliefs that lead to success. Many unsuccessful students fail not for lack of knowledge, but because they lack appropriate beliefs, expectations, and achievement goals (Diener & Dweck, 1978). Perceived strategies and capacities play a facilitative role in relation to student engagement, particularly cognitive and affective engagement (Schunk, 1985).

Perceived capacities have been described and labeled in many different ways: self-efficacy, perceived control, expectancies, and attribution style. Connell describes perceived capacities as each student's self-perceptions about their ability to elicit desired outcomes. Perceived capacities (or self-efficacy, Bandura, 1977, 1982, 1986) has proven to be an important predictor of educational success (Gerardi, 1990; Multon, Brown, & Lent, 1991; Murphy & Shell, 1989; Schunk, 1985; Schunk & Hanson, 1989; Sohlberg, O'Brien, Villareal, Kennel, & Davis, 1993). Schunk (1985) found strong relationships between children's self-efficacy (perceived capacity) beliefs, motivation, and performance. In their meta-analysis of 39 studies that had evaluated the relationship between self-efficacy and academic achievement, Multon et al. (1991) found strong, positive relationships between self-efficacy beliefs and academic performance across a wide variety of subjects, experimental designs, and assessment methods. The samples of both Schunk (1987) and Multon et al. (1991) primarily relied on European-American subjects.

Perceived capacities (self-efficacy) are also a significant predictor of Latino college student performance (Gerardi, 1990; Murphy & Shell, 1989; Sohlberg et al., 1993) and of treatment success for school phobia (Garcia & Martinez-Urrutia, 1984) and cigarette smoking (Sabogal, Otero-Sabogal, Pérez-Stable, Marin, & Marin, 1989) among Latinos. Thus, perceived competence may be a relevant predictor of Latino-American academic achievement.

Perceived competence was included in the present study. Student self-reports on the RAPS-S provided information regarding both dimensions of competence--perceived capacities and perceived strategies. These scores contributed to each student's Self score.

Autonomy. Connell (1991) defined perceived autonomy as "the experience of choice in the initiation, maintenance, and regulation of behavior, and the experience of connectedness between one's actions and personal goals and values" (p.63). Autonomy is commonly referred to as self-regulation.

Autonomous, self-regulated learning has received increasing attention as an important factor in academic achievement (Kanfer, 1990; Zimmerman & Martinez-Pons, 1986, 1988). Pintrich and De Groot (1990) identified 3 components of autonomous, self-regulated learning: (a) metacognitive planning and monitoring strategies, (b) management and control of effort, and (c) cognitive strategies to learn and remember. These components enable the learner to modify goals and learning strategies as necessitated by external conditions (Kanfer, 1990). Perceived autonomy is triggered when competence expectations are low and goal difficulty is high (Kanfer, 1990).

Abundant research supports the predictive power of perceived autonomy or self-regulation in education settings. Zimmerman and Martinez-Pons (1986) identified self-regulation as a significant predictor of achievement test scores. In Pintrich and De Groot's (1990) study, self-regulation was the best predictor of achievement across all types of outcome measures.

Goal directed behavior is an important component of autonomous learning (Lese & Robbins, 1993). While the types of goal-related constructs are numerous and diverse, Lese and Robbins (1993) identified goal instability as a relevant predictor of the academic performance of minority students. In their study of 39 Southeast Asian adolescent refugees enrolled in a bilingual vocational education program, goal stability was significantly related to higher grade point average, goal attainment, and better study skills (Lese & Robbins, 1993).

In the present study, perceived autonomy was assessed through student self-report on the RAPS-S. Statements on the RAPS-S address external, introjected, identified, and intrinsic aspects of self-regulation or perceived autonomy. Each student's responses to the autonomy statements contributed to a total Self score.

Perceived relatedness. Perceived relatedness consists of emotional security and a wish for closeness with others (Connell & Wellborn, 1991). It refers to "the experience of connection and emotional security with other individuals in the school setting" (Connell et al., 1995; p. 58). Like perceived autonomy, perceived relatedness's impact on academic achievement is mediated by engagement and self-regulation (Eccles, 1983). Teachers must socialize relatedness.

Perceived relatedness was measured through student responses on the RAPS-S. The RAPS-S includes subscales to assess perceived relatedness to self, parents, teachers, and peers. The Self variable for each student was computed by averaging the perceived competence, perceived autonomy, and perceived relatedness scores. An Internalization variable also was computed in the Academic Success path model. This variable was determined by teacher responses to the Internalization subscale of the Social Skills Rating System, a subscale that indirectly taps many aspects of student competence, autonomy, and relatedness.

Ethnic identity. Although Connell's model is comprehensive, other self-system variables may be necessary to account for variations in educational engagement among Latino-American students. For instance, identity issues are strongly salient for adolescents, especially those experiencing cultural transitions (Phinney, 1990, 1992). Casas and Pytluk (1995) urged researchers/theorists to consider ethnic identity issues when conducting research with Hispanic-Americans. Without awareness and understanding of the importance of ethnic identity, future research will not meet the educational needs of Hispanic-American youth. Using Connell's words, resolution of identity may be a fourth important psychological need (in addition to competence, autonomy, and relatedness) of the self-system for Latino-American students. Acculturative stress may be the greatest challenge to Latino-American students ability to forge a coherent identity (Saldaña, 1994).

Acculturation refers to "a process of attitudinal and behavioral change undergone by individuals who reside in multicultural societies or who come in contact with a new culture due to colonization, invasions, or other important political changes" (Marin, 1992). It is viewed as a fluid, never-ending process (Berry, Trimble, & Olmedo, 1986) that is experienced by both majority and non-majority groups (Berry, 1993).

Acculturation produces stress. According to Wodarski (1992), "The most stressful aspect of the acculturation process is the re-evaluation of their role within the new culture and their sense of not belonging" (p. 86). Acculturative stress, thus, refers to stressors resulting from the acculturation process "that appear more relevant to Hispanic minority status rather than which are similar to those experienced by non-Hispanic White students" (Saldaña, 1994, p. 118).

Most of the students in the proposed study have experienced intense and chronic stressors resulting from acculturative stress. For instance, many students have been forced to relocate from their country of origin leaving behind relatives and familiarity. The inner city where these students live and attend school also presents numerous stressors--including violence and poverty--that challenge their coping capacities. Additionally, all students in the present study have experienced stress at school; all have met a profile for potential dropouts and school failure.

Excessive stress, including acculturative stress, can interfere with personal functioning and adjustment (Gil et al., 1994; Smart & Smart, 1995a). Certainly, numerous factors interact to determine the effect of a single stressor (e.g., type of stress, duration, individual's coping ability). However, "the central premise of (acculturative stress) theories is that negative outcomes occur when stressors exceed the individual's coping resources" (Gil et al., 1994, p. 44). Thus, the high incidence of acculturative stress experienced by students in the present study suggested that identity, personal adjustment, and coping skills would be useful predictors of their achievement.

Numerous researchers have explored the effects of immigration and acculturation on the physical and mental health of Hispanic-Americans (Gil, Vega, & Dimas, 1994; Marin, 1992; Quintana, 1995; Saldaña, 1994; Smart & Smart, 1995a, 1995b). Despite the widespread interest in the acculturative stress construct and general agreement about its predictive utility, however, conceptualization problems have plagued research. For instance, researchers frequently confound acculturation (i.e., cultural change) with acculturative stress (i.e., the effects of the acculturation process) (see Gil et al., 1994). Additionally, few studies have addressed the impact of acculturation on Hispanic-American adolescents; no quality scales exist to measure acculturative stress among adolescents (see Gil et al., 1994).

Marin (1992) identified five shortcomings of current measures of Latino acculturation and acculturative stress: (1) lack of psychometric item evaluation, (2) overemphasis on language use as a measure of acculturation, (3) poor conceptualization--e.g., viewing acculturation as a unidimensional concept despite extensive evidence that it is multidimensional, (4) limited amount of quality research, and (5) problematic research practices--e.g., researchers commonly change wording on scales to meet their personal preferences. Given the limitations of existing measures, the present study used a related construct, ethnic identity.

Ethnic identity is a component of self-concept--an awareness of our unique ethnic group membership including the value and significance we attach to that membership. According to Phinney (1992), ethnic identity includes four components: (1) self-identification of one's ethnic group, (2) involvement in ethnic behaviors and practices, (3) affirmation and belonging that results from group membership, and (4) position on an ethnic identity achievement continuum (that is, how close an individual is to achieving a clear ethnic identity). Common important values within Hispanic cultures include familismo, simpatico, respeto, and cooperation (Stavans, 1995).

Many researchers contend that strong ethnic identity is essential for healthy psychological functioning of ethnic group members (Gurin & Epps, 1975; Maldonaldo, 1975). Ethnic identity may be an especially important variable during adolescence, a time when personal identity issues are paramount.

Ethnic identity is affected by acculturative stress (e.g., an awareness of one's minority/majority status and a sense of belonging or not belonging that results from that status). Smart and Smart (1995a, 1995b) argued that identity and belonging are two crucial aspects of acculturative stress. Unlike acculturative stress, however, ethnic identity can be viewed as a broad phenomena with many commonalities across all ethnic groups. For instance, Phinney (1992) found that ethnic identity is an important predictor of self-esteem among persons from non-majority groups (including European-Americans residing in settings in which they are minorities).

Ethnic identity's precise relationship with adjustment, however, is often debated and remains a key question for future research (Phinney, 1990). Wodarski (1992) regards strong ethnic identity as detrimental to the acculturation process. However, research suggests that strong ethnic identity is associated with positive adjustment (Phinney, 1992; Taylor, Casten, Flickinger, Roberts, & Fulmore, 1994). Casas & Pytluk (1995) argued that future research with the ethnic identity construct is essential "to understand how and why Hispanic children adapt differently to the variety of education and social environments in which they find themselves" (p. 160).

The Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) was used in the present study. Phinney (1992) constructed the MEIM to assess ethnic identity across numerous ethnic groups. In a study with 417 high school students (89 Hispanic students), she demonstrated the MEIM's high reliability ($\underline{\alpha}=.81$) and bidimensional factor structure (ethnic identity and attitudes toward other ethnic groups; Phinney, 1992).

Action

According to Skinner et al. (1990), engagement "encompasses children's initiation of action, effort, and persistence on schoolwork, as well as their ambient emotional states during learning activities" (p. 24). Student engagement mediates between the self-system and outcome (academic performance). Connell et al. (1994) cited engagement as the most proximal point of entry for interventions in the academic achievement of African-American students.

Engagement occurs on affective, behavioral, and cognitive levels. *Affective* aspects of engagement include school satisfaction, boredom, discouragement, curiosity, excitement, anger, nervousness, happiness, interest, and sadness (Connell & Wellborn, 1991). Reyes and Jason (1993) found school satisfaction to be one of only two significant predictors of academic achievement (along with gang invitation) in their study of Latino-Americans. Skinner et al. (1990) reported that teachers can accurately rate affective involvement.

Aside from the positive influence of engagement on achievement, disaffected behavior can lead to poor outcome. Connell et al. (1994) identified a reciprocal relationship between self and action in at-risk populations. In their study of African-American children, Connell et al. concluded:

> African-American youth can lessen parental involvement, which in turn contributes to negative appraisals of self that exacerbate disaffected patterns of action, contributing to negative educational outcomes. (p. 504)

Behavioral indices of engagement include prosocial school behaviors (extracurricular activities, on-task behaviors in the classroom) and study behaviors. Students who are more highly engaged in school are more likely to spend time studying. Study skills lead to improved academic achievement (Duran & Weffer, 1992; Keith, 1982; Keith & Cool, 1988). Investigating the causal effects of study time on achievement in 20,364 high school students, Keith (1982) reported that study time had a strong direct effect on academic performance (path coefficient=.19). Duran and Weffer (1992) found study time had a similar direct effect size (.22) on achievement test scores in their sample of 157 Hispanic high school seniors. As predicted by Connell's model, study time exerts a direct impact on achievement. Similarly, school attendance is positively related to academic achievement, in turn, poor attendance reduces school outcome (Easton & Engelhard, 1981). Additionally, low school attendance is strongly predictive of delinquent behaviors--"If we can prevent truancy, we can affect the level of juvenile crime" (Dade County Grand Jury, 1993; p. 20). Thus, identifying factors that improve attendance will likely enhance a student's school success and help the student avoid educational risk behaviors.

Connell has used attendance as both an engagement and an outcome variable (Connell & Wellborn, 1991; Connell et al., 1994).

Cognitive engagement includes attention, preference for difficult tasks, and cognitive strategy use (e.g., problem solving) (Connell & Wellborn, 1991). Less work has been completed on this aspect of engagement. However, research has shown it to be predictive of academic achievement (Pintrich & De Groot, 1990).

The engagement construct warrants further explication given its proposed direct effect on outcome variables. It is not clear from available research if the three levels of engagement occur simultaneously or if one level may precede the others. For instance, emotional engagement (e.g., liking school) may determine behavioral engagement (e.g., attending class) (Goodenow & Grady, 1993). If so, delineating the engagement pathway will have important implications for intervention.

Measures of affective, behavioral, and cognitive engagement were included in the present study. The RAPS-S has subscales for these three dimensions of engagement. Additionally, teachers provided information regarding each student's level of emotional and behavioral engagement by completing the Rochester Assessment Package for Schools-Teacher Report (RAPS-T; Wellborn & Connell, 1987). In the Academic Success path analysis, emotional and behavioral engagement were separated to determine if one precedes the other.

Outcome

Connell's model evaluates various measures of outcome. Outcome measures are grouped under two broad categories: academic achievement and educational risk behaviors.

Academic achievement. Academic achievement can be defined in various ways. Typically, researchers rely on student GPA and standardized test performance as the primary measures of academic achievement (Wood, 1993). Standardized teacher ratings of student performance are a useful alternate measure of student achievement. In their study of 57 fourth-grade Mexican-American students, Frontera and Horowitz (1995) concluded that teacher ratings of student achievement were significantly related to student success as measured by GPA and achievement tests. The present investigation relied on two indices of academic achievement: overall GPA and teacher ratings of student achievement on the Academic Achievement Questionnaire (Gresham & Elliott, 1990).

Educational risk behaviors. Educational risk behaviors include those behaviors that jeopardize a student's chances of succeeding in school--discipline problems at school (e.g., fighting), gang involvement, and drug use. Maladaptive behaviors interfere with school achievement, particularly among minority students (Brady, Tucker, Harris, & Tribble, 1992). In their 1993 final report, the Dade County Grand Jury identified "disruptive behavior in school" as an early warning sign of school failure and of chronic juvenile offenses (p. 13). Aggressive and assaultive forms of maladaptive behavior have become increasingly commonplace--in 1989, 1.74

million juveniles were arrested, 279,170 for violent offenses (Dade County Grand Jury, 1990). In Dade County, where the present study took place, violent crimes committed by adolescents skyrocketed 155% from 1983 to 1990. Likewise, juvenile arrests for all other crimes continue to increase in this county at an alarming rate (Dade County Grand Jury, 1995). With the growing adolescent population in Dade County, this trend is expected to continue indefinitely.

Middle school students are especially vulnerable to juvenile crime and maladaptive behaviors. In Dade County, middle schools have a 56% higher expulsion rate than high schools. Nationwide seventeen percent of middle school students have experienced some form of violent assault by a peer (Mailander, 1996). The present study used two sources of information regarding maladaptive behaviors: (1) student self-reported problem behaviors and (2) student discipline record of suspensions and detentions as maintained by their school.

Specific self-report problem behaviors included in this study were gang involvement, drug use, and criminal activity. Gang involvement jeopardizes students chance for academic success. In their study of 48 Hispanic tenth graders, Reyes & Jason (1993) found gang involvement (as indicated by gang invitations and number of friends in gangs) to be the strongest predictor of students most at-risk for drop-out in a major urban U.S. city. The present study used the Reyes & Jason's (1993) three-item scale to assess gang involvement.

Drug use and criminal activity also interfere with academic performance. The recent rise in drug use among adolescents is well documented (Gast, Caravella, Sarvela, & McDermott, 1995). Drug use was assessed via a three-item alcohol and drug use subscale of the Youth Risk Behavior Surveillance System (YRBSS), a measure constructed by the Center for Disease Control (see Gast et al., 1995). A recent review of the YRBSS concluded that it is a valid and useful measure of youth drug use, unrelated to social desirability measures (Gast et al., 1995). Criminal activity was assessed via two questions that asked students how many times they have violated the law during the past year and how many times, if any, they have been arrested for a crime. An education risk index was computed by averaging the Gang Involvement Scale, the YRBSS, and the Criminal Involvement Scale.

Problem Definition and Hypotheses

Existing literature suggests that the American educational system is failing to address adequately the needs of Latino students. Immediate action is necessary to identify factors that contribute to academic success and failure in Latino-American students. The next step in research requires the elaboration and verification of a causal model of Latino-American academic achievement.

The goal of the present research was to test a causal model--Connell's process model of motivation--for explaining Latino-American student academic achievement. In particular, the present study attempted to delineate aspects of student engagement and ethnic identity in this causal model.

Two hypothesized path models were tested: an Academic Success path model and an Educational Risk path model. Primarily two differences distinguished these models, their information sources (teacher- versus student-report) and their outcome variables (academic success versus educational risk measures). The Academic Success model included teacher ratings and school records and contained two outcome measures, overall GPA and teacher-rated achievement. In contrast, the Educational Risk model, based on student-report and school record, used self-reported problem behaviors and school discipline referrals as outcome measures.

Path analysis hypotheses may be presented in two ways, through path diagrams or through prose. The Academic Success path diagram is presented in Figure 3 which visually depicts the predicted relationships among the variables in this study. Teacher-ratings and school records for 327 Latino-American students supplied the data for this path model. The Academic Success path model was tested separately for each Latino-American subgroup (i.e., Cuban-American, Nicaraguan-American, and other Hispanic-American). Figure 4 illustrates the Educational Risk path diagram. Information for this model was provided by 51 Cuban-American students who completed a self-report questionnaire, the *Rochester Assessment Package for Schools-Student Report*. Specific hypotheses include the following:

1. Connell's process model of motivation will account for a statistically significant ($\underline{p} < .05$) portion of the variance in academic success and educational risk behaviors for students of each Latino-American subgroup.
2. Emotional engagement, as assessed by teacher-report, will have a statistically significant ($\underline{p} < .05$) direct effect on behavioral engagement

but not academic success (i.e., overall GPA, and teacher-rated achievement).

3. Ethnic identity, as assessed by student-report, will have a statistically significant ($p < .05$) direct effect on student-reported engagement.

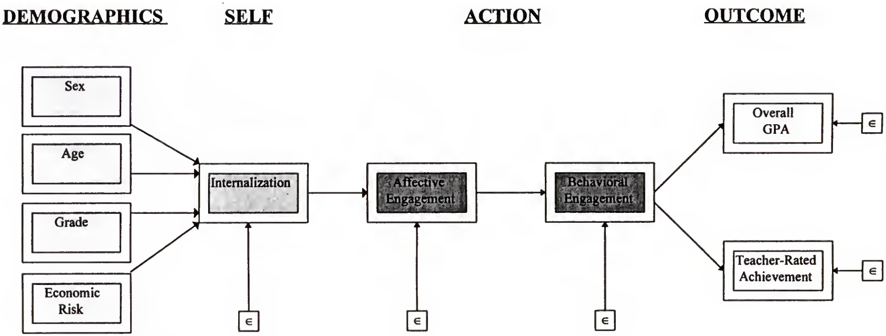

Figure 3. Hypothesized Academic Success Path Model Depicting the Relationships Among the Demographic, Self, Action, and Outcome Variables Under Investigation.

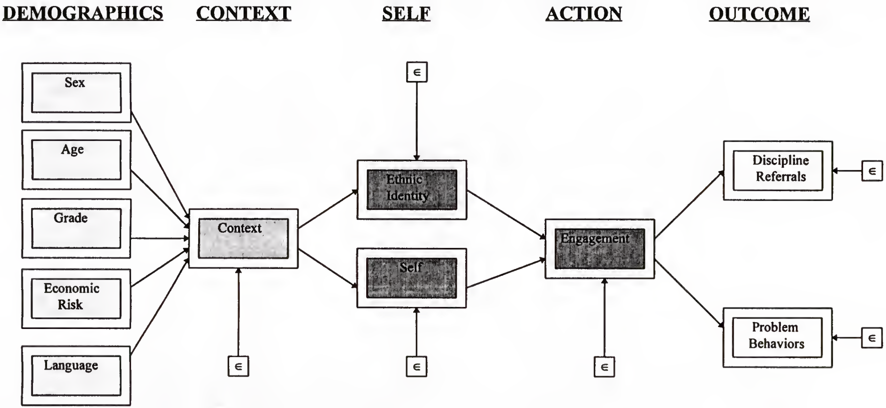

Figure 4. Hypothesized Educational Risk Path Model Depicting the Relationships Among the Demographic, Context, Self, Action, and Outcome Variables Under Investigation.

CHAPTER III
METHODOLOGY

Participants

Participants in this study included 22 teachers and 342 Latino-American students. Teachers and school records provided information about 327 Latino-American students (131 Cuban-American, 82 Nicaraguan-American, and 114 other Hispanic) in grades 7-10 who attended nonprofit state-funded Alternative Schools (in Miami, Florida) conducted by the Cuban-American National Council. Table 1 provides descriptive data for these students. The other Hispanic-American group included students from other Central American (e.g., Honduras, Guatemala), Caribbean (e.g., Dominican Republic, Puerto Rico), and South American (e.g., Colombia, Brazil) countries. This group was included to test the importance of using the Difference Model research approach with diverse Latino-American groups.

Additionally, 51 Cuban-American students--including 36 students who were rated by their teachers as described in the above paragraph--at the Alternative Schools agreed to participate in the study. They completed the RAPS-S with teacher assistance. Demographic descriptions of these students are provided in Table 2.

Students were placed in these schools because they met the Drop Out Profile established by the Dade County Public School system. Students fulfilled the Drop Out Profile by meeting two or more of the following criteria: (a) 18 or more absences in the previous school year, (b) low reading ability as evidenced by a reading stanine score of less than 4, (c) two or more years older than the grade-level average, (d) enrollment in three or more schools during the previous 3 years, (e) three or more Ds or Fs for the previous school year, (f) indoor or outdoor suspensions in previous school year, (g) limited English Proficiency (LEP) as evidenced by assignment to LEP classes for five or more semesters, and (h) major exceptionality (e.g., musically or academically gifted). Many of the Alternative School students met other "at risk" criteria, for instance, 70% resided in single parent homes.

Table 1

Demographic Variables' Means and Standard Deviations for Students Rated by Teachers

CUBAN	NICARAGUAN	OTHER HISPANIC
Sex	Sex	Sex
Females: 61	Females: 43	Females: 53
Males: 70	Males: 39	Males: 61
Age	Age	Age
M = 15.74	M = 15.74	M = 15.87
SD = 1.44	SD = 1.56	SD = 1.56
Grade	Grade	Grade
M = 8.38	M = 8.24	M = 8.11
SD = 1.08	SD = 1.16	SD = 1.11
Free-Lunch Eligibility[1]	Free-Lunch Eligibility[1]	Free-Lunch Eligibility[1]
M = 1.70	M = 1.99	M = 1.91
SD = 0.77	SD = 0.46	SD = 0.49

---

[1] Scores ranged from 1 (not eligible for free-lunch program), 2 (eligible for reduced-lunch program), and 3 (eligible for free-lunch program).

Table 2

Demographic Variables' Means and Standard Deviations for Cuban-American Students who Completed the RAPS-S

CUBAN

Sex
Females: 26
Males: 25

Age
M = 15.89
SD = 1.72

Grade
M = 8.50
SD = 1.28

Free-Lunch Eligibility[1]
M = 1.82
SD = 0.72

Language[2]
M = 1.93
SD = 0.49

---

[1] Scores ranged from 1 (not eligible for free-lunch program), 2 (eligible for reduced-lunch program), and 3 (eligible for free-lunch program).
[2] Scores ranged from 1 (Spanish) to 2 (English).

The three Alternative Schools are located in different districts of Miami, Florida. Approximately 100 students attend each school. A low faculty to student ratio (6:100) allows each Alternative School to maintain small class sizes, a maximum of 25 students per class. The goal of the Alternative Schools is to provide a meaningful transition experience for students to re-enter the Public School system after 10th grade.

The total of 22 teachers (11 men and 11 women; 21 Latino-Americans and 1 European-American) at the Alternative Schools also participated in this study. All teachers were certified and employed by the State of Florida. All had taught at the Alternative Schools for at least one year and thus were familiar with the students that they were asked to rate. Teachers provided information about student self-system, engagement, and academic performance. Five of these teachers (23%) administered the student-report questionnaires as described in the Procedures section.

Measures

The measurement strategies for each construct in this study are depicted in Figure 5. The strategies will be discussed under the following headings: demographic variables, student-report measures, teacher-report measures, and outcome data.

Demographic Variables

A data manager from Dade County Public Schools obtained the following demographic data from each student's school record: age, sex, ethnicity, country of origin, number of school discipline referrals (i.e., detentions, suspensions, expulsions) during the previous year, and family economic risk. *Family economic risk* was defined as each student's eligibility for the free- or reduced-lunch program as determined by federal guidelines. Eligibility for the lunch program serves as a marker for family poverty. Eligibility level was one of the following scores for each student: 1=not eligible, 2=eligible for reduced-lunch, or 3=eligible for free-lunch.

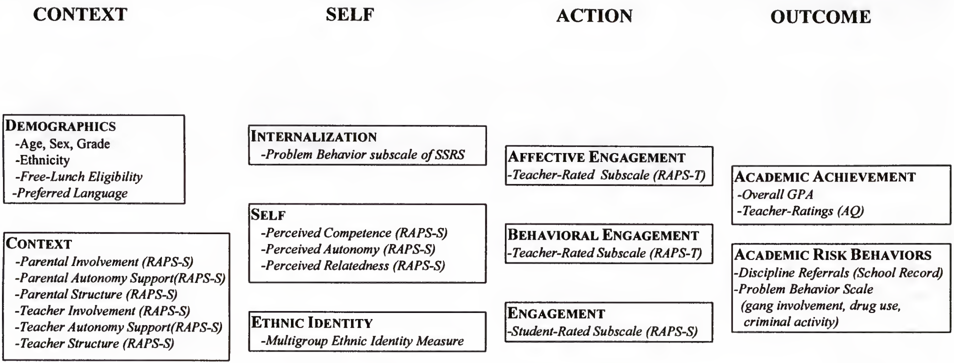
CONTEXT
SELF
ACTION
OUTCOME
DEMOGRAPHICS
-Age, Sex, Grade
-Ethnicity
-Free-Lunch Eligibility
-Preferred Language
CONTEXT
-Parental Involvement (RAPS-S)
-Parental Autonomy Support(RAPS-S)
-Parental Structure (RAPS-S)
-Teacher Involvement (RAPS-S)
-Teacher Autonomy Support(RAPS-S)
-Teacher Structure (RAPS-S)
INTERNALIZATION
-Problem Behavior subscale of SSRS
SELF
-Perceived Competence (RAPS-S)
-Perceived Autonomy (RAPS-S)
-Perceived Relatedness (RAPS-S)
ETHNIC IDENTITY
-Multigroup Ethnic Identity Measure
AFFECTIVE ENGAGEMENT
-Teacher-Rated Subscale (RAPS-T)
BEHAVIORAL ENGAGEMENT
-Teacher-Rated Subscale (RAPS-T)
ENGAGEMENT
-Student-Rated Subscale (RAPS-S)
ACADEMIC ACHIEVEMENT
-Overall GPA
-Teacher-Ratings (AQ)
ACADEMIC RISK BEHAVIORS
-Discipline Referrals (School Record)
-Problem Behavior Scale
(gang involvement, drug use, criminal activity)

Figure 5. Measurement Strategies for Each Construct Under Investigation.

Teacher-Report Measures

Engagement and disaffection were assessed by means of a 20-item subscale of the *Rochester Assessment Package for Schools-Teacher Report* (RAPS-T; Wellborn & Connell, 1989). These items allowed teachers to rate each student's level of class participation and emotional tone in class. Scores for each item on this scale range from 1 (not very true) to 4 (very true). The scale has high split-half reliability (r=.82) and internal consistency (α=.96) (IRRE, 1995b; Skinner, Wellborn, & Connell, 1990). The RAPS-T was divided into two 10-item subscales, emotional engagement and behavioral engagement. Please see Appendix D (questions 1-20) for a copy of the RAPS-T.

Additionally, teachers completed the *Problems Behaviors* subscale of the Social Skills Rating System (Appendix D, questions 21-32; Gresham & Elliott, 1990). The subscale allows teachers to rate student's tendency to internalize or externalize stress. The Internalization subscale was used to tap observed aspects of the self-system (Appendix D, questions 21, 23, 28, and 30-32). This 6-item subscale has high internal consistency (α=.80) and test-retest reliability (r=.76). For each item, teachers are asked to rate the frequency of a specified behavior on a 3-point scale: 1 (never), 2 (sometimes), or 3 (always). The items relate to observable aspects of the self-system such as "Has low self-esteem" (perceived competence) and "Appears lonely" (perceived relatedness). Teachers also completed the 5-item Academic Achievement Questionnaire (Gresham & Elliott, 1990) described in the section, Outcome (Achievement) Measures.

Student-Report Measures

With the assistance of their homeroom teacher, 51 Cuban-American students completed the *Rochester Assessment Package for Schools-Student Report* (RAPS-S; Wellborn & Connell, 1987), a 150-item self-report questionnaire. The RAPS-S includes subscales to assess three of the four constructs in Connell's process model of motivation: (1) context variables--perceived parent support and perceived teacher support, (2) self variables--perceived competence, autonomy, and relatedness, and (3) action variables--school engagement and satisfaction. Please see Appendix F (questions 1-149 and 154) for a copy of the RAPS-S.

More than 50 studies with multiracial samples and with over 10,000 students support the reliability and validity of the RAPS-S (see Connell, 1991; Connell et al., 1995). The psychometric properties of the RAPS-S range from adequate to excellent. Although other measures of the constructs in Connell's model exist, the RAPS-S was used in the present study because it offers a concise and accurate measure of each construct within a single instrument.

Specific reliability and validity data for each subscale of the RAPS-S is discussed below. All items are answered on a four-point scale from not at all true for me (1) to very true for me (4).

The *Context* subscale of the RAPS-S includes two broad aspects: perceived teacher context and perceived parent context. Perceived teacher context was assessed using three subscales of the RAPS-S: (1) perceived teacher involvement--e.g., "my teachers care about how I do in school," (2) perceived teacher autonomy support--

e.g., "my teachers let me decide things for myself," and (3) perceived teacher structure--e.g., "the rules in my class are clear." Aggregate scores on these teacher context subscales relate consistently to self variables (e.g., perceived competence, autonomy, and relatedness) (Connell et al., 1994; Connell et al., 1995). Data from the Institute for Research and Reform in Education (IRRE; 1995a) indicates that each subscale has adequate reliability (teacher involvement $\alpha=.73$, teacher autonomy support $\alpha=.68$, and teacher structure $\alpha=.62$). The three perceived teacher context subscales--involvement, autonomy support, and structure--were combined to form a single composite score that contributed to the Context variable.

Perceived parent context was assessed using three subscales of the RAPS-S: (1) perceived parental involvement--e.g., "my parents like to talk to me about school," (2) perceived parental autonomy support--e.g., "when it comes to school, my parents try to control everything I do," and (3) perceived parental structure--e.g., "I know how my parents will act if I don't do my homework." Aggregate scores on these parent context subscales relate consistently to self variables (e.g., perceived competence, autonomy, and relatedness) (Connell et al., 1994; Connell et al., 1995). IRRE (1995a) data revealed the following reliability coefficients: parental involvement $\alpha=.77$, parental autonomy support $\alpha=.67$, and parental structure $\alpha=.71$. Mean perceived parent context and mean perceived teacher context scores were combined to form a single Context score for each student.

The RAPS-S includes a *Self* subscale that taps the three dimensions of the self-system: perceived competence, perceived autonomy, and perceived relatedness.

Perceived competence subscales of the RAPS-S include 20-items that tap the two dimensions of competence, strategies (e.g., "I know what it takes to do well in school") and capacities (e.g., "I can get the teacher to like me"). Perceived autonomy includes 17-items that tap four distinct aspects of self-regulation: (1) intrinsic--e.g., "I do school work because it is fun," (2) identified--e.g., "I do school work because I want to understand the subject," (3) introjected--"I do school work because I will feel guilty if I don't," and (4) external--"I do school work because the teacher will yell at me if I don't." Perceived relatedness subscales are comprised of 33-items that assess relatedness to self (e.g., "I wish I felt better about myself"), parents (e.g., "I wish I could talk about more things with my parents), teachers (e.g., "I wish my teacher would spend more time with me"), and peers (e.g., "I wish my classmates knew me better").

A single score was computed for each of the 3 primary self-system subscales: perceived competence, autonomy, and relatedness. These scores were combined to form a total Self score. Aggregate scores on each subscale predict student engagement (see Connell et al., 1994; Connell et al., 1995). Additionally, the subscales possess adequate reliability: perceived competence $\underline{\alpha}=.84$, perceived autonomy $\underline{\alpha}=.79$, and perceived relatedness $\underline{\alpha}=.77$ (IRRE, 1995).

An additional RAPS-S Self subscale provides information concerning each student's academic *coping ability*. This 12-item subscale taps each student's preferred coping strategies at school (e.g., "When something bad happens to me in school I try to see what I did wrong"). The reliability coefficient for the coping subscale is $\underline{\alpha}=.72$. The subscale predicts student engagement.

Engagement was assessed via an 18-item subscale of the RAPS-S which taps affective (e.g., "When I'm in school, I feel happy"), behavioral (e.g., "I read school books even when they are not assigned"), and cognitive (e.g., "I pay attention in class") aspects of engagement. The engagement dimension of the RAPS-S is predictive of student GPAs and standardized test scores (Connell et al., 1994; Connell et al., 1995). Reliability coefficients on these subscales range from $\underline{\alpha}=.69$ to $\underline{\alpha}=.74$ (IRRE, 1995b).

In addition to the RAPS-S, students completed the *Multigroup Ethnic Identity Measure* (MEIM; Phinney, 1992). The MEIM is a 20-item scale developed to assess an individual's sense of ethnic identity (see Appendix F, questions 166-185). Factor analysis revealed two distinct factors in the MEIM: ethnic identity and feelings about other ethnic groups. Phinney (1992) reported that the ethnic identity subscale had excellent reliability ($\underline{\alpha}=.81$) in a sample of 417 high school students. In this same study, Phinney reported a significant correlation between the MEIM and self-esteem ($\underline{r}=.31$). Consistent with Phinney's recommendation for using the MEIM with Hispanic-American students, the present study supplemented the MEIM with two questions to assess student language use: (1) "In which language do you prefer to read and speak" and (2) "In which languages do you usually think?" Response choices ranged from (1) Spanish to (2) English. Mean scores on these questions were computed to form a preferred language index.

Students also completed the 4-item *Test Anxiety* subscale of the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich & DeGroot, 1990). The Test Anxiety subscale (see Appendix F, questions 150-153) is a distinct factor of the MSLQ and a useful predictor of student achievement (Pintrich & DeGroot, 1990). The Test Anxiety subscale was selected for use in the present study because of its brevity (student fatigue was a concern) and high reliability (α=.75).

Outcome Measures

Academic Achievement Data Sheets (AADS) were used to record students' language, math, and overall grade point averages (*GPAs*) during the current school year when this study took place. The specified academic achievement data were obtained from school records.

The *Academic Achievement Questionnaire (AQ)* (Gresham & Elliott, 1990), a 9-item component of the Social Skills Rating System (teacher version), was used as a teacher rating scale of student academic achievement (Appendix D, questions 33-41). The AQ has a high level of internal consistency (α=.91) and is significantly correlated with the Peabody Individual Achievement Test and the Wechsler Intelligence Test for Children-Revised (Gresham, Reschly, & Carey, 1987). The AQ also effectively discriminated a sample of learning disabled from non-learning disabled persons.

To provide information concerning educational risk behaviors, students completed the following measures: (1) the *Gang Involvement Scale*, (2) the *Youth Risk Behavior Surveillance System* (YRBSS), and (3) the *Criminal Involvement Scale*. The three-item Gang Involvement Scale (Appendix F, questions 157-159), developed by Reyes and Jason (1992), asks respondents if they belong to a gang, how many times they have been invited to join a gang, and how many of their friends are gang-affiliated. The latter two items on this scale were highly predictive of school drop-out risk among a group of Hispanic high school students (Reyes & Jason, 1992). The YRBSS is a 3-item scale developed and used by the CDC for epidemiology studies of alcohol and drug use among adolescents (Appendix F, questions 161-163). Responses on the YRBSS are not strongly influenced by social desirability (Gast et al., 1995). The 2-item Criminal Involvement Scale was constructed for use in this study (Appendix F, questions 164-165). One question asks respondents how many times they have violated the law during the past year; the second question asks how many times, if any, the respondent has been arrested. Mean scores on the Gang Involvement Scale, the YRBSS, and the Criminal Involvement Scale were combined to form a self-reported Problem Behavior index.

Testing Procedures

Instrument Translation and Pilot Testing

Two persons fluent in Spanish and English translated the parent consent form, the student consent form, and the student-report measures (e.g., the RAPS-S and the MEIM) into Spanish through a double translation procedure. That is, one translator translated the measures from English into Spanish and another translated the Spanish version back to English. Discrepancies were resolved through translator discussions and through consultation with representatives of the Alternative Schools.

The Spanish version of the student-report measures was pilot tested with a group of 5 Latino-American high school students in Virginia. Teachers and administrators at the Alternative Schools provided feedback regarding the clarity and comprehensibility of the student-report measures (taking into consideration the language skills of students at the Alternative Schools). Final Spanish versions of the consent forms and student-report measures were constructed based on student and teacher feedback. The Spanish version of the parent consent form was used in this study, however, all students whose data were used in the present study chose to respond to the English RAPS-S rather than the Spanish version of this instrument.

Teacher Training

A doctoral candidate in counseling psychology trained teachers from the Alternative Schools to administer the student-report measures in a group setting. The two-hour training session covered the following material: (a) the purpose and significance of the proposed research, (b) the importance of standardized administration procedures, (c) proper administration directions, (d) modeling appropriate administration procedures, (e) common student questions and appropriate responses, and (f) practice administrations. Nineteen teachers (86%) and three school principals attended the training session. The school principals trained the three absent teachers to administer the questionnaires. An administration packet containing step-by-step instructions for administering the questionnaires was also supplied to each teacher and principal. Each teacher practiced administering the student-report measures until she/he administered them accurately and comfortably (based on teacher self-report).

After the training session, each teacher completed a written 5-item training competency test and a written 5-item self-rating of their comfort/understanding of the test administration procedure.

Procedure

The experimental procedure consisted of two components: a teacher-report procedure and a student-report procedure. Teachers provided academic and observational data (i.e., the RAPS-T, Internalization, and AQ scales) regarding each student in their homeroom. The teacher-report procedure was completed within five-days of the teacher-training session. Teachers then administered the student-report measures to students in their homeroom class. The student-report procedure took place over a several week period with students in each Alternative School completing the questionnaire on the same day. The entire experimental procedure, from teacher self-reports to student self-reports, was completed within a six-month period.

Teacher-Report Procedure. Prior to completing the training session, teachers at the Alternative Schools were asked to participate in the study. In a group setting, a doctoral candidate in counseling psychology discussed the study with the teachers. Teachers each read and signed an informed consent form regarding the purpose and potential benefits and risks of their participation (please see Appendix C). Signing this form indicated agreement to participate in this study--all teachers agreed to participate. For each student in their homeroom class, teachers then completed a three-part teacher-report measure: (1) the RAPS-T, (2) the Academic Questionnaire, and (3) the Internalization subscale of the Social Skills Rating System. Each teacher-report measure was labeled with the name of the student about whom she/he was being asked to provide information. The teacher-report measure took approximately 5-10 minutes to complete for each rated student. Teachers were encouraged to take at least a five-minute break after completing measures for every 5 students. Each teacher completed approximately twenty teacher-report measures. Teachers returned all of their completed measures to an Alternative School principal within 5 days after receiving them. The On-Site Project Coordinator, an administrator of the Alternative Schools, collected this data and mailed it to the Principal Investigators.

Student-Report Procedures. Prior to the study, all parents of students who attended the Alternative Schools were sent a parent informed consent form (please see Appendix B) with a return, stamped, self-address envelope. One hundred twelve parents responded and agreed to let their child participate in this study resulting in a participation rate of 34 percent. Among this group of 112 students with parent consent were the 51 Cuban-American students in the Educational Risk path model. After parent consent forms were returned, teachers at the Alternative Schools provided students in their homeroom class (who had returned parent consent forms) with a brief overview of the research including the purpose (e.g., "to discover more about how students learn") and potential benefits (e.g., "to help more students succeed in school") of the proposed research. Teachers then distributed and read aloud student assent forms (which covered the purposes and potential risks and benefits of their participation and a statement regarding voluntary participation), answering any student questions. Teachers then asked students to indicate their intent to participate by signing the student assent form (please see Appendix A), reminding students first that participation was voluntary and could be self-terminated at any point. All 112 students with parent consent agreed to participant in the study.

Next, teachers distributed the student-report measures (the RAPS-S, MEIM, and Test Anxiety subscale) after asking each student which version of the measures, Spanish or English, she/he preferred to complete. Each student-report measure was pre-coded to ensure student anonymity. Teachers then read a scripted statement (please see Appendix E) regarding testing procedures including the following information: (a) general content of the measures, (b) instructions for completing the measures, (c) importance of honest responses, and (d) efforts to ensure student confidentiality and anonymity.

Next, teachers read the instructions for the student-report measures and invited student questions. The teacher then proceeded to read each statement on the student-report measures aloud and directed students to respond on their answer key with the option most appropriate to them. Students followed along on their hard copy of the questionnaire. It took approximately 60-minutes to complete the student-report measures.

After completing the student-report measures, each student inserted the response sheet into a large envelope that was attached to their materials. Teachers collected the envelope from each student and then distributed a debriefing form (a more detailed explanation of the study and expected results).

CHAPTER IV
RESULTS

The current study examined the relationships among several variables from a process model of motivation. Of particular interest was the question of how well this model applied to Latino-American students. Two path models were tested, an Academic Success model and an Educational Risk model. The Academic Success model was based on teacher-ratings and school records for 327 Latino-American students. Variables in this model included demographic variables (sex, age, grade, and economic risk), internalization, emotional engagement, behavioral engagement and two outcome variables, overall GPA and teacher-rated achievement (AQ). The Educational Risk path model was based on 51 Cuban-American students' responses to a student-report measure and their school records. This model included (a) several demographic variables; (b) a context composite score including perceived parent and teacher contexts; (c) a self composite score including perceived competence, autonomy, and relatedness; (d) an engagement composite score; and (e) two measures of educational risk, self-reported problem behaviors and number of school discipline referrals.

Ordinary least squares path analyses were used to examine the hypothesized relationships among the variables in this study for each subgroup of Latino-American students. The SAS Regression procedure was used to compute successive multiple regression analyses. The Beta (B) weights (standardized regression coefficients) generated from these analyses were used as path coefficients. In evaluating path coefficients, the study used both statistical significance ($p < .05$) and meaningfulness (path coefficients > .05) criteria as suggested by Pedhazur (1982). Direct, indirect, and total effects were computed for each endogenous variable.

Treatment of the data required excluding cases with missing values (6 Cuban-American, 4 Nicaraguan-American, and 32 other Hispanic-American). Additionally, scores were reversed-keyed where appropriate. Checking assumptions was the next step in data analysis.

Evaluation of Assumptions

Because path analysis is derived from regression procedures, it shares many of the assumptions of regression procedures. Most important of these assumptions are those regarding the ratio of participants to parameters, outliers, multicollinearity, normality, linearity, and homogeniety of variance.

Because of the large influence that sample size has on the confidence of findings, minimum sample size criteria have been established. In general, 5-10 subjects per parameter estimated is recommended (Klem, 1995); each arrow in a path model is one parameter. In the Academic Success Model, four parameters were present for Cuban-American (n=125) and Nicaraguan-American (n=78) students and six parameters for the group of other Hispanic (n=82) students. Subject to parameter ratios--31:1 for Cuban-Americans, 20:1 for Nicaraguan-Americans, and 21:1 for other Hispanics--all exceeded the minimum ratio suggested by Klem (1995). The Educational Risk Model required 6 parameters yielding a subject:parameter ratio of 9:1.

The data from each analysis were analyzed by group for possible outliers. Cooks distance was used as a measure of influence (Klem, 1995). No data points exceeded the Cooks distance criteria (>1.0), thus, no outliers were identified.

Multicollinearity was assessed in each regression equation using Tolerance and Variance Inflation computations. Tolerance values ranged from 0.26 to 0.99 for all of the analyses; no values fell below the minimum criteria of 0.10. Similarly, Variance Inflation values ranged from 1.13 to 5.4, all below the maximum criteria of 10.0.

To assess normality, linearity, and homogeneity of variance, scatterplots of residuals against predicted x and y values were tabulated and examined. The overall shapes of these scatterplots lacked any clear patterns that would be suggestive of assumption violations.

Descriptive Data

The means and standard deviations for each variable under investigation are presented in Tables 3 and 4. Table 3 presents variables in the Academic Success model based on teacher-report and school record data for each subgroup of Latino-American students. Noteworthy findings in this table include the higher overall GPA for the other Hispanic group ($\underline{M}=2.34$) relative to the Cuban ($\underline{M}=1.96$) and Nicaraguan ($\underline{M}=2.01$) groups. Additionally, the Cuban group averaged more discipline referrals ($\underline{M}=2.51$) than the Nicaraguan ($\underline{M}=1.01$) or the other Hispanic ($\underline{M}=0.97$) groups. Otherwise, these three groups had similar means and standard deviations for teacher-rated academic performance (AQ), behavioral and emotional engagement, and internalization.

Table 3

Academic Success Model Variables' Means and Standard Deviations by Ethnic Group

	CUBAN		NICARAGUAN		OTHER HISPANIC	
	n=125		n=78		n=82	
VARIABLES	M	SD	M	SD	M	SD
Academic Achievement						
Overall GPA	1.96	0.94	2.01	0.80	2.34	0.93
Teacher-Rated (AQ)	2.87	0.96	2.86	0.85	2.96	0.92
Educational Risk						
Discipline Referrals	2.51	4.91	1.01	3.23	0.97	3.20
Engagement						
Behavioral	2.50	0.78	2.49	0.73	2.10	0.78
Emotional	2.02	0.67	1.97	0.59	1.85	0.61
Self						
Internalization	1.57	0.49	1.51	0.50	1.56	0.46

Table 4

Education Risk Model Variables' Means and Standard Deviations for Cuban-American Students Who Completed the RAPS-S

	CUBAN	
	n=51	
VARIABLES	M	SD
Academic Achievement		
Overall GPA	2.23	0.69
Teacher-Rated (AQ)	2.65	0.95
Educational Risk		
Discipline Referrals	2.78	4.26
Problem Behaviors	1.64	0.61
Engagement	2.19	0.47
Self	5.96	6.45
Ethnic Identity	2.14	0.49
Context	2.17	0.40

Note. Engagement, self, and context represent composite scores based on Connell's process model of motivation.

Table 4 presents the means and standard deviations from the Educational Risk Model for the 51 Cuban-American students who completed the student-report measures. In general, the findings for this group of Cuban-American students were similar to those for the larger group of Cuban-American students (n=125) that were included in the Academic Success model with one exception: the overall GPA mean (M=2.23) for the Cuban-American students in the Educational Risk Model (Table 4) was higher than that of the Cuban-American students (M=1.96) in the Academic Success model (Table 3).

Zero-order correlations among variables were also computed and are presented in Tables 5-8 . Most noteworthy in these tables are the high intercorrelations among many variables in this study. Additionally, some of the intercorrelations varied by ethnic group. For instance, the internalization variable had a significant negative correlation with overall GPA for Cuban-American students (r=.20), but these two variables were unrelated for the Nicaraguan-American and other Hispanic-American groups. Similarly, internalization was negatively related to AQ ratings for Cuban-American (r=-.29) and Nicaraguan-American (r=-.44) but not for other Hispanic-American students. Emotional engagement and behavioral engagement had strong positive correlations for the other Hispanic-American (r=.74) and Nicaraguan-American students (r=.76) but only a moderate relationship for Cuban-American students (r=.42). These findings illustrate the importance of the Difference Model research approach to identify the unique aspects of achievement for each ethnic group.

Table 5

Intercorrelations Among Variables in the Academic Success Model for Cuban-American Students

VARIABLES	ACADEMIC QUESTIONNAIRE	BEHAVIORAL ENGAGEMENT	EMOTIONAL ENGAGEMENT	INTERNALIZE
Overall GPA	0.37**	0.44**	0.42**	-0.20*
Academic Questionnaire		0.73**	0.51**	-0.29**
Behavioral Engagement			0.42**	-0.17*
Emotional Engagement				-0.45**

** p<.05
** p<.001

Table 6

Intercorrelations Among Variables in the Academic Success Model for Nicaraguan-American Students

VARIABLES	ACADEMIC QUESTIONNAIRE	BEHAVIORAL ENGAGEMENT	EMOTIONAL ENGAGEMENT	INTERNALIZE
Overall GPA	0.43**	0.34**	0.39**	0.02
Academic Questionnaire		0.70**	0.65**	-0.44**
Behavioral Engagement			0.76**	-0.37**
Emotional Engagement				-0.55**

** $p < .05$
** $p < .001$

Table 7

Intercorrelations Among Variables in the Academic Success Model for Other Hispanic-American Students

VARIABLES	ACADEMIC QUESTIONNAIRE	BEHAVIORAL ENGAGEMENT	EMOTIONAL ENGAGEMENT	INTERNALIZE
Overall GPA	0.46**	0.39**	0.33**	-0.21
Academic Questionnaire		0.59**	0.37**	-0.18
Behavioral Engagement			0.74**	-0.28**
Emotional Engagement				-0.49**

** $p < .05$
** $p < .001$

Intercorrelations among the variables in the Educational Risk Model are found in Table 8. Again many strong correlations emerged from this analysis. Engagement and context variables had significant correlations with every other variable in the model. Three notable exceptions to these strong relationships were also found. Ethnic identity was not related to self-reported problem behaviors or to self. Also, self was not related to school discipline referrals.

Table 8

Intercorrelations Among Variables in the Educational Risk Model for Cuban-American Students

VARIABLES	PROBLEM BEHAVIORS	ENGAGE MENT	SELF	ETHNIC IDENTITY	CONTEXT
Discipline Referrals	0.44**	-0.55**	0.02	-0.47**	-0.55**
Problem Behaviors		-0.64**	-0.28**	-0.15	-0.68**
Engagement			0.42**	0.42**	0.62**
Self				0.16	0.39**
Ethnic Identity					0.38**

*$p < .05$
** $p < .01$

Note. Engagement, self, and context represent composite scores based on Connell's process model of motivation.

Path Analysis

In path analysis, any variables with direct links to an endogenous variable serve as predictors in a series of regression equations. For instance, in Figure 4, engagement (endogenous variable) was the criterion in one regression equation with ethnic identity and self as predictors. Separate regression equations were written for each endogenous variable in Figure 3 and 4. Standardized regression coefficients that resulted from these analyses became path coefficients. Direct effects are defined by these path coefficients. That is, a variable's direct effect reflects its unique contribution toward variance explanation. In contrast, indirect effects are mediated by other variables. In Figure 4, context has a direct effect on ethnic identity and self, as seen by a single arrow, and an indirect effect on discipline referrals mediated by ethnic identity and self. The indirect effect is computed by multiplying path coefficients along these two mediated paths and summing the results. The total effect is computed as the sum of indirect and direct effects. Two path models were tested this study: an Academic Success Model and an Educational Risk Model.

Academic Success Model

As earlier stated, the Academic Success Model included the following variables: demographic (age, sex, grade, and economic risk), internalization (a self variable), affective engagement, behavioral engagement, overall GPA, and teacher-rated academic achievement (AQ). This model bears on the first two hypotheses. The first hypothesis states that Connell's process model of motivation will account for a statistically significant ($p < .05$) portion of the variance in academic success and educational risk behaviors for students of each Latino-American subgroup. The second hypothesis states that emotional engagement, as assessed by teacher-report, will have a statistically significant ($p < .05$) direct effect on behavioral engagement but not academic success (i.e., overall GPA, and teacher-rated achievement).

Three path analyses were conducted to test the hypothesized Academic Success model. These path analyses along with resulting path coefficients and unexplained variances are depicted in Figures 6-8. In the path analysis for Cuban-American students (n=125) (Figure 6), all predicted paths were significant except for those leading from two demographic variables, sex and economic risk. This path model accounted for 54% of the variance in teacher-rated achievement but only 19% of the variance in overall GPA. As predicted, affective engagement emerged as a significant predictor of behavioral engagement (path coefficient=.61; $p < .001$) but not the outcome variables. Behavioral engagement, on the other hand, had a direct effect on each outcome variable, overall GPA (path coefficient=.44; $p < .01$) and teacher-rated achievement (path coefficient=.73; $p < .001$). Thus, in this path model, behavioral engagement mediated between emotional engagement and the outcome variables. Emotional engagement, in turn, mediated between internalization and behavioral engagement. The large amount of variance left unexplained in the internalization construct was not surprising given that a measure of context was not included in this model.

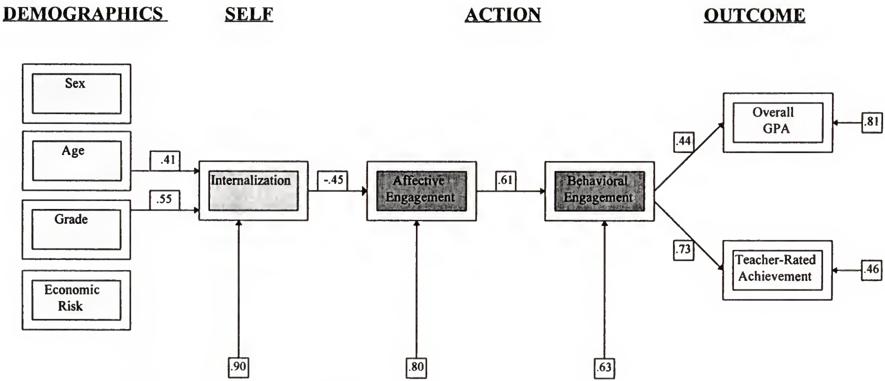

Figure 6. Academic Success Path Model Depicting the Relationships Among the Demographic, Self, Action, and Outcome Variables Under Investigation for Cuban-American Students.

The direct, indirect, and total effects of each variable on the two outcome variables are listed in Table 9. As indicated in this table, emotional engagement and internalization were only indirectly related to the outcome variables.

Table 9

Direct, Indirect, and Total Effects of Variables in the Academic Success Model on Overall GPA and AQ for Cuban-American Students

Effect Variables	Effect on Overall GPA		
	Direct	Indirect	Total
Behavioral Engagement	0.44	0.00	0.44
Emotional Engagement	0.00	0.27	0.27
Internalization	0.00	0.12	0.12

Effect Variables	Effect on Academic Questionnaire		
	Direct	Indirect	Total
Behavioral Engagement	0.73	0.00	0.73
Emotional Engagement	0.00	0.45	0.45
Internalization	0.00	0.20	0.20

Figure 7 illustrates the identified path model for Nicaraguan-American ($\underline{n}$=78) students. None of the demographic paths in this model were significant. Similar to the model for Cuban-American students, the relationships among the remaining variables were all significant as predicted with one exception: emotional engagement had a direct effect on teacher-rated achievement (path coefficient=.27; $\underline{p}<.05$). Relative to the model for Cuban-American students, however, the model for Nicaraguan-American students was more accurate from internalization to emotional engagement (path coefficient=-.55; $\underline{p}<.01$) and from emotional engagement to behavioral engagement (path coefficient=.76; $\underline{p}<.001$). However, this path model for Nicaraguan-American students had relatively smaller path coefficients from behavioral engagement to the outcome variables, overall GPA (path coefficient=.34; $\underline{p}<.01$) and AQ (path coefficient=.49; $\underline{p}<.01$).

Direct, indirect, and total effects for this model are listed in Table 10. The findings for the path to overall GPA were similar to those for Cuban-American students. Emotional engagement and internalization had strong indirect effects but no direct effects on overall GPA. The most striking difference between the Nicaraguan-American group and the Cuban-American group were found in the paths to teacher-rated achievement. In contrast to the model for Cuban-American students, emotional engagement had a significant direct effect (path coefficient=.27; $\underline{p}<.05$) on AQ for the Nicaraguan-American students. This resulted in a stronger total effect (.64) for emotional engagement relative to behavioral engagement (.49).

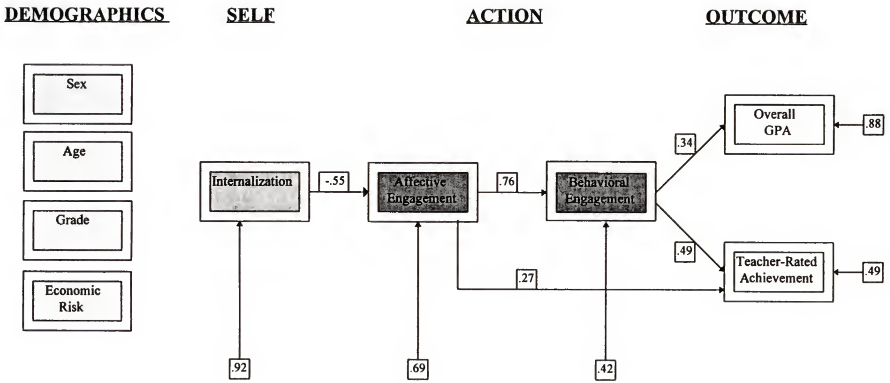

Figure 7. Academic Success Path Model Depicting the Relationships Among the Demographic, Self, Action, and Outcome Variables Under Investigation for Nicaraguan-American Students.

Table 10

Direct, Indirect and Total Effects of Variables in the Teacher-Report Model on Overall GPA and Academic Questionnaire for Nicaraguan-American Students

Effect Variables	Effect on Overall GPA		
	Direct	Indirect	Total
Behavioral Engagement	0.34	0.00	0.34
Emotional Engagement	0.00	0.26	0.26
Internalization	0.00	0.14	0.14

Effect Variables	Effect on Academic Questionnaire		
	Direct	Indirect	Total
Behavioral Engagement	0.49	0.00	0.49
Emotional Engagement	0.27	0.37	0.64
Internalization	0.00	0.35	0.35

A similar pattern as in the Cuban-American model emerged for the group of other Hispanic-American students (Figure 8). The paths in this model were all significant except for the demographic variables. Table 11 lists the direct, indirect, and total effects for the variables in this analysis. The findings were similar to those for the Cuban-American students.

These findings support the first two hypotheses. All three path diagrams had significant relationships among the variables as proposed by Connell's model. Additionally, for all three subgroups, behavioral engagement served as a mediating variable between emotional engagement and overall GPA. Only for Nicaraguan-American students did emotional engagement have a direct effect on outcome (AQ).

Table 11

Direct, Indirect and Total Effects of Variables in the Teacher-Report Model on Overall GPA and Academic Questionnaire for Other Hispanic-American Students

Effect Variables	Effect on Overall GPA		
	Direct	Indirect	Total
Behavioral Engagement	0.39	0.00	0.39
Emotional Engagement	0.00	0.29	0.29
Internalization	0.00	0.14	0.14
Effect Variables	**Effect on Academic Questionnaire**		
	Direct	Indirect	Total
Behavioral Engagement	0.59	0.00	0.59
Emotional Engagement	0.00	0.44	0.44
Internalization	0.00	0.21	0.21

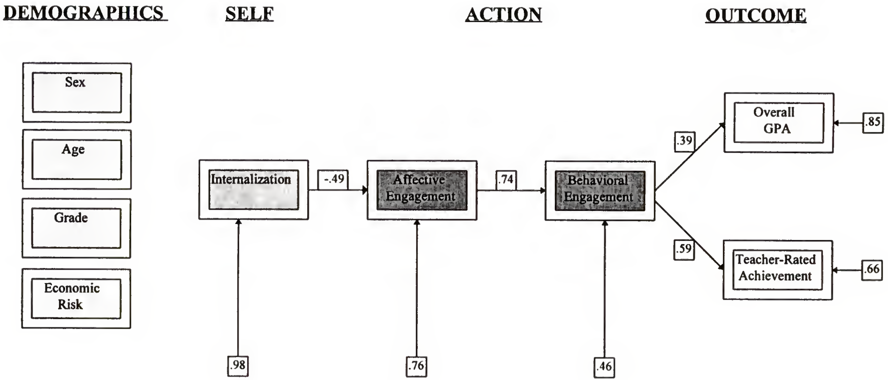

Figure 8. Academic Success Path Model Depicting the Relationships Among the Demographic, Self, Action, and Outcome Variables Under Investigation for Other Hispanic Students.

Educational Risk Model

The Educational Risk model included the following variables: demographic (age, sex, grade, preferred language, and economic risk), context, self, ethnic identity, engagement, school discipline referrals, and self-reported problem behaviors. This model bears on hypotheses one and three. The first hypothesis states that Connell's process model of motivation will account for a statistically significant ($p < .05$) portion of the variance in academic success and educational risk behaviors for students of each Latino-American subgroup. The third hypothesis states that ethnic identity, as assessed by student-report, will have a statistically significant ($p < .05$) direct effect on student-reported engagement.

One path analysis for Cuban-American students (n=51) was conducted to test the hypothesized Educational Risk model. This path analysis with resulting path coefficients and unexplained variances is depicted in Figure 9. None of the predicted demographic paths were significant, however, all other paths were. This path model accounted for 41% of the variance in self-reported problem behaviors and 36% of the variance in school discipline referrals. Perhaps the most notable findings were those associated with the ethnic identity variable. As predicted, ethnic identity paralleled the effects of the self variable on engagement (path coefficients=.37 and .36, respectively). Context's path coefficients to ethnic identity (.37) and self (.39) were also similar. Unlike self, however, ethnic identity had a direct effect on an outcome variable, school discipline referrals. Thus, ethnic identity made significant contributions to error variance explanations for both action and outcome variables

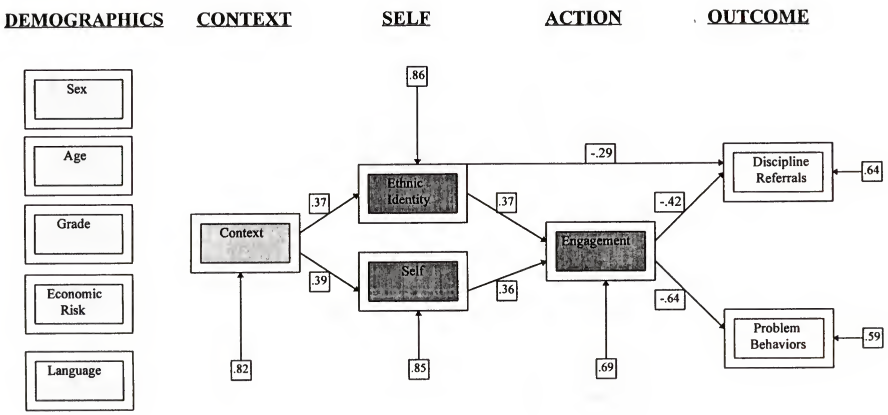

Figure 9. Educational Risk Path Model Depicting the Relationships Among the Demographic, Context, Self, Action, and Outcome Variables Under Investigation for Cuban-American Students.

suggesting it may be an important aspect of these students' self-systems. As predicted, engagement emerged as the only other tested variable with direct effects on the outcome variables, discipline referrals (path coefficient=-.42) and self-reported problem behaviors (path coefficient=-.64). The direct, indirect, and total effects of each variable on the outcome variables are listed in Table 12. These findings support the first and third hypotheses: Connell's model was applicable to these Cuban-American students and ethnic identity was an important variable in this analysis. Illustrating the value of ethnic identity in this model, ethnic identity's total effect (.45) on discipline referrals was comparable to engagement's (.42).

Table 12

Direct, Indirect and Total Effects of Variables in the Educational Risk Model on Discipline Referrals and Problem Behaviors

Variables	Effect on Discipline Referrals		
	Direct	Indirect	Total
Engagement	0.42	0.00	0.42
Ethnic Identity	0.29	0.16	0.45
Self	0.00	0.15	0.15
Context	0.00	0.22	0.22

Effect Variables	Effect on Problem Behaviors		
	Direct	Indirect	Total
Engagement	0.64	0.00	0.64
Ethnic Identity	0.00	0.24	0.24
Self	0.00	0.23	0.23
Context	0.00	0.18	0.18

CHAPTER V
DISCUSSION

Summary of Research and Findings

The present study was designed to test a causal model for understanding and explaining academic achievement among Latino-American students. A group of 7th-10th grade Latino-American students and teachers at three nonprofit, state-funded Alternative schools participated in the study. Twenty-two teachers rated 327 students' (131 Cuban-American, 82 Nicaragua-American, and 114 other Hispanic-American) self-systems, level of emotional and behavioral engagement, and academic success. Additionally, 51 Cuban-American students completed a questionnaire designed to tap context, self, ethnic identity, engagement, and educational risk aspects of the model.

Three research hypotheses were tested in this study:

1. Connell's process model of motivation will account for a statistically significant ($p < .05$) portion of the variance in academic success and educational risk behaviors for students of each Latino-American subgroup.
2. Emotional engagement, as assessed by teacher-report, will have a statistically significant ($p < .05$) direct effect on behavioral engagement but not academic success (i.e., overall GPA, and teacher-rated achievement).

3. Ethnic identity, as assessed by student-report, will have a statistically significant ($p < .05$) direct effect on student-reported engagement.

Findings supported all three hypotheses. In particular, all predicted paths in Connell's process model were significant for 3 groups of Hispanic-American students. Connell's model predicted both Academic Success and Educational Risk path models. In the Academic Success path model, emotional engagement had significant direct effects on behavioral engagement but not on the outcome variables for each ethnic group with one exception: emotional engagement had a direct effect on teacher-rated achievement for Nicaraguan-American students. The Educational Risk model revealed ethnic identity's direct effect on engagement and school discipline referrals. Ethnic identity paralleled the self variable's relationships with other model variables suggesting that ethnic identity may be an important, yet overlooked, component of the self-system. On the other hand, the ethnic identity and self variables were unrelated. The implications of these findings will be reviewed after a summary of this study's limitations.

Study Limitations

Before reviewing implications, it is first necessary to describe the limitations of this pilot investigation. The limitations can be grouped by design limitations, administration confounds, and measurement problems.

Design limitations include external validity and conceptualization problems. First, the small, non-random sample in this study, especially for the Educational Risk model, limits the accuracy and generalizability of the present findings. These findings may not apply beyond the students in this study. The findings were intended to inform school personnel working with these students and to generate hypotheses for future investigation. Second, conceptually, this study may not have fulfilled all the assumptions of path analysis. In addition to those already cited, path analysis requires two fundamental assumptions: use of a correct model and inclusion of all relevant variables. The comprehensiveness of Connell's model and the strong predictive power of this study's variables suggest that this requirement may have been met. However, it is possible that some relevant variables were excluded because of inaccessibility. Two variables that may be relevant for future study include student ability and neighborhood effects (Wilson, 1987; Wood, 1993).

Connell's model conceptualizes student ability as an outcome variable (achievement) resulting from student action (engagement in learning). Because other outcome variables were used in this study, it may not have been necessary to include ability in the analysis. However, abundant evidence suggests that ability is a precursor, or determinant, of achievement (e.g., Duran & Weffer, 1992; Walberg, 1984). Consistent with this literature, Wood (1993) reported that ability was the most significant predictor of educational achievement among Hispanic adolescents. Because ability was not included in this study, it is not clear how it might influence the present findings, a question for future research.

Neighborhood risk is a second potentially relevant variable not included in this study. A growing literature has demonstrated the powerful impact of neighborhood risk on educational achievement (see Gephart, 1994; Connell et al., 1995; Wilson, 1987). Neighborhood risk refers to a variety of sociodemographic composition variables of a given neighborhood including: (a) percentage of low SES residents, (b) unemployment rate, and (c) ethnic diversity. In his classic analysis of neighborhood risk, Wilson (1987) concluded that social isolation--that is, the "lack of contact or of sustained interaction with individuals and institutions that represent mainstream society" (p. 60)--is a primary factor in creating the catastrophic conditions facing the residents of inner cities in the U.S. Wilson noted:

> Whereas whites and blacks--all other things being equal--could in the near future show a decrease in problems such as joblessness, crime, out-of-wedlock births, teenage pregnancy, family dissolution, and welfare dependency, the growing Hispanic populations, owing to rapid increases in births and migration, could very likely experience increasing rates of social dislocation. (p. 39)

Thus, neighborhood risk may predict Hispanic-American success. Because a measure of neighborhood risk was not available for this study, it is not clear how this variable affects Connell's model. Initial evidence suggests that it is a social context variable with indirect links to outcome (Connell et al., 1995). Future studies might include a measure of neighborhood risk to clarify this variable's role in Connell's model.

Administration confounds, a second group of this study's limitations, includes the adequacy of the administration procedure. It is not known if or how the presence of a known adult may have influenced the student ratings. The teacher-test administrators were known to the students but were not the students' primary graders. It is important to note that student-report variables were consistent with the predicted model. Also, the students reported high mean levels of maladaptive behaviors (on the problem behavior scales) indicating that they were comfortable disclosing personal information.

Another administration confound concerns teacher involvement in the study. Some teachers (about 25%) were not pleased to participate and expressed skepticism about the study. This attitude may have influenced their student ratings or their manner of administering the student-report questionnaire. On a positive note, all teachers returned their ratings in a timely manner.

A final category of study limitations, measurement problems, concerns the sources of data and the questionnaires used in this research. The Academic Success models overemphasized teacher-report data. Response bias may have inflated the intercorrelations among the variables in these models. However, two points argue against this. First, the teacher-rated variables were all related in the expected directions. For instance, although internalization predicted emotional engagement, it did not add unique variance explanation to the behavioral engagement or outcome paths. Second, teacher ratings predicted external criteria. That is, teacher-rated engagement was significantly related to student-reported problems, and it predicted overall GPA (graded by other teachers).

Three variables--ethnic identity, internalization, and emotional engagement--presented other measurement problems. First, the ethnic identity measure (MEIM) is most commonly used with young adults. Growing validity data supports its use with middle and high school students (Phinney, 1992), but some students in this study, especially 7th graders, may have had difficulty responding to this questionnaire. Unreliability in this measure may have deflated its observed relationships. Second, the use of the internalization subscale as a self variable was purely speculative. No research has explored the relationship between this variable and Connell's model. In retrospect, however, internalization fit the model as predicted. Third, no prior research had separated the emotional engagement subscale from the behavioral engagement subscale as was done in this study. Support for separating these variables, however, was provided by the lack of multicollinearity in the analyses and by emotional engagements' relatively stronger relationship with self and weaker relationship with outcome compared to behavioral engagement.

Implications

With these limitations in mind, numerous implications emerged from the present findings. Initial evidence is provided for the application of Connell's process model of motivation to at-risk Cuban-American and Nicaraguan-American students. Further attempts to investigate the utility of this model with these students as well as with other groups of Hispanic youth are justified. Continued validation of this model with diverse student groups extols the virtue of educational reform that targets student engagement. As Connell et al. (1995) noted for African-American students, the engagement level may be the most proximal entry point for effective intervention.

Connell's model, in particular the engagement construct, may be equally predictive of positive as well as negative outcomes. In this study, the engagement variables had direct effects on discipline referrals and self-reported student problems such as gang involvement, drug use, and criminal behaviors. Consistent with previous research, increasing engagement not only facilitates academic success (Connell et al., 1994), but it may also deter academic failure and maladaptive behaviors.

Given its significance to educational outcome, the engagement construct requires further elaboration. First, research is needed to confirm it's solitary direct contribution to achievement. Although sizeable amounts of variances remained unexplained in these path models, engagement's true relationships with the outcome variables in this study may have been even stronger than those that were observed. Combined student, teacher, and parent ratings of student engagement, rather than the separate ratings used in this study, generally yield stronger direct relationships with outcome (Connell et al., 1994). Second, future research is needed to clarify the sequence of the engagement process. In this study, emotional engagement preceded behavioral engagement in the path toward achievement in all but one path (for Nicaraguan-American students, emotional engagement had a direct effect on teacher-rated achievement). If further evidence supports this observation, schools may best direct their resources toward creating bonding experiences between students and education to help students associate school and learning with positive feelings and images.

To promote student engagement, educators are encouraged to develop contexts that nurture student competence, relatedness, and autonomy. Students need contextual support to develop the self qualities that lead to engagement. In an ideal classroom, students are engaged by optimally challenging and meaningful tasks in the presence of others who are interested and supportive (Connell et al., 1994). Promoting student relatedness, for instance, requires that students feel connected to their social worlds; their teachers, parents, and peers. When students are alienated from these significant others, they may disengage from school. Teachers are encouraged to create structured classrooms atmospheres marked by high involvement with students. Environments (contexts) that simultaneously support autonomy, competence, and relatedness are marked by adults who (a) provide children with options and choices without coercion, (b) respect the student's agenda, and (c) make learning activities relevant to student goals. Teachers can help students set and monitor personal goals and then draw connections between coursework and these student goals.

Focusing on process, not outcome, also may help elicit engagement and intrinsic motivation to learn. Educational process refers to the moment to moment aspects of learning. Instead of only reinforcing students for being competent, process-oriented teachers comment on the enjoyable aspects of the learning enterprise. For instance, a teacher might tell a student, "This is fun. I'm enjoying working with you on this problem," versus saying, "Good work," only after a student successfully completes an activity. Focusing on process in this way encourages students to notice times when school is enjoyable and stimulating. It nurtures their engagement.

Attempts to motivate students through pressure and by increasing the contingency between behavior and a desired outcome may be less successful because such efforts only focus on success or failure. School environments that solely promote competence neglect other important needs of the self, that is, autonomy and relatedness. In this era of educational outcome and competency goals, teachers and students often report feeling pressured and isolated. Ignoring their other self-system needs can lead to disengagement. Recognizing these other self-system needs requires that schools first specify student engagement as a central institutional goal. Likewise, teachers can identify engagement as an immediate educational objective in their classrooms.

In addition to addressing student needs for competence, autonomy, and relatedness, educational reform may need to consider other self-system components, such as ethnic identity, not previously included in Connell's model. In this study, ethnic identity had a direct effect on student-reported engagement. Stronger ethnic identity was positively associated with student engagement. The importance of ethnic identity was also revealed in its direct effect on discipline referrals; increasing ethnic identity may also help reduce educational risk behaviors. If further evidence supports these findings, schools and teachers are challenged to incorporate discussion and appreciation of Hispanic cultures into their curriculum.

Ethnic identity's significant role in the present study provides further support for the Difference Model research approach. Consistent with the Difference Model, explaining achievement may require unique variables for different ethnic groups. For instance, although ethnic identify was not needed in Connell's previous research with European-American students, it was an important variable in predicting academic risk for this study's Cuban-American students. Additional support for the Difference Model was supplied by the different correlations among some variables across the different Latino-American subgroups in this study (e.g., emotional engagement had a direct effect on teacher-rated achievement for Nicaraguan-American students but not for Cuban-American or other Hispanic-American students).

Two other concepts from Connell's model may also have important implications for educators (Connell & Wellborn, 1991). First, Connell's model emphasizes the multiple embedded contexts that influence outcome. A variety of social, temporal, and historical factors influence student achievement (Connell & Wellborn, 1991). Recognition of these factors is necessary to promote academic success. Connell's model encourages educators to recognize and respect the multiple embedded contexts that shape the lives of students.

Second, Connell's model can be applied to the multiple partners in the educational enterprise; students, teachers, and parents. "Studying the self system processes of students alone does not provide an adequate knowledge base to guide effective institutional reform" (Connell & Wellborn, 1991, p. 71). Given the strong influence of teacher involvement and support on student's self-systems (Connell & Wellborn, 1991, referred to teachers as "providers of motivational nutrients," p. 71), teacher self-systems likely influence student development. In other words, Connell's model may extend to teacher behavior. Efforts to improve the quality of interactions between teacher and student must also attend to the teacher's self-system.

The application of Connell's model to teacher behavior (Connell & Wellborn, 1991) has received initial support in the literature. Structured contextual and autonomy support from schools helped strengthen teachers' self-systems which helped them engage in their work (Connell & Wellborn, 1991). Engaged teachers in turn were more likely to relate and bond with students.

One final note, this study champions the importance of community-based research marked by collaboration among the multiple community partners--universities, schools, teachers, administrators, businesses, parents, and students. Continued collaborations will enhance relationships among the partners and increase the likelihood of identifying creative, satisfying, and lasting solutions.

Conclusion

A causal model of motivation holds promise for understanding and explaining the academic achievement of Latino-American students. The present findings support the continued investigation of this model to enhance the educational outlook for Latino students. Connell's model offers much to the researcher, teacher, parent, and student alike. For the researcher, this parsimonious model brings clarity to the scattered educational literature on Latino-American academic achievement and offers practical guidance for future inquiry. For teachers, parents, and students it offers the hope of improving the academic status of Latino-Americans. Connell's process model of motivation offers a humanistic, dialectic view of achievement. It acknowledges the vast array of contexts that influence these children, and it offers a clear direction for change.

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APPENDIX A
STUDENT ASSENT FORM

STUDENT ASSENT FORM

You are being asked to volunteer to take part in a research study. The purpose of this form is to give you information about this study and to answer any questions you may have.

The purpose of the study is to discover more about how students learn, their relationships with others, and what it's like being a student. The results of the study may allow us to help more students be successful in school.

Persons who volunteer to take part in this study will be asked to complete a set of questionnaires. The questionnaires will take about 45 minutes to complete. Your name will not be written on any of the questionnaires so that your rights to privacy and confidentiality will be protected. Consequently, you can feel comfortable answering all questions honestly.

After you complete the questionnaires, you may ask any remaining questions or express any concerns that you may have about the study. When the entire study is completed, you will receive a printed summary of the results. Your teacher will also discuss these results with you in class.

There are no risks or discomforts anticipated for persons who volunteer to take part in this study. If you wish to discuss any discomforts you may experience, you may call Mr. Keith Herman or Dr. Carolyn Tucker, Principal Investigators, at (904) 392-9436 (your School Principal can help you contact the Principal Investigators). You may benefit from taking part in this study because the results will be used to help all students in your school be successful.

I have been fully informed of the procedure for the study described above, and I understand its possible benefits and risks. I also understand that I will receive no compensation for
Do you agree to take part in this study (please circle one)? Yes No

Signature of Student Date

Signature of Principal Investigators Date
Keith C. Herman, M.A.
(904) 392-9436, Box 124, Psychology

Carolyn M. Tucker, Ph.D.
(904) 392-9436, Room 253, Psychology

APPENDIX B
PARENT INFORMED CONSENT FORM

PARENT INFORMED CONSENT

Dear Parent:

We are writing to request your permission to allow your child to participate in a research study at the Alternative Schools. The study is being conducted by Dr. Carolyn M. Tucker, Distinguished Alumni Professor, and Mr. Keith Herman, Graduate Student, of the University of Florida. The purpose of the study is to discover more about how students learn, their relationships with others, and what it is like being a student. The results of the study may allow us to help more students be successful in school.

Students who participate in the study will be asked to complete a set of questionnaires during their homeroom class with the help of their homeroom teacher. Additionally, we will use information from each student's school record to help us understand how students learn (e.g., GPAs, length of time in the U.S., eligibility for federal free-lunch program). It will take 45-70 minutes to complete the questionnaires--students will not miss any academic classes. Students' names will not be written on any of the questionnaires so that their rights to privacy and confidentiality will be protected.

Participation is completely voluntary. Your decision will not affect your child's grades. Students who do not participate will be sent to the cafeteria where they will take part in their regular homeroom activities. Students who participate can decide to stop taking part in the study at any time; likewise, you may withdraw your permission for your child's participation any time.

There are no risks or discomforts anticipated for students who take part in this study. If students wish to discuss any discomforts they may experience, they can call Mr. Keith Herman or Dr. Carolyn Tucker, Principal Investigators, at (904) 392-9436 (their School Principal, the On-Site Project Coordinator, can help them contact the Principal Investigators). You may also contact the Principal Investigators at that number or through your child's School Principal. Additionally, students could choose to speak with the school counselor at their school. Your child may benefit from taking part in this study because the results will be used to help all students in the Alternative School be more successful. After the study is completed, you will receive a printed copy of the results.

If you have any questions or concerns about your rights or your child's rights as a research participant, please contact the University of Florida Institutional Review Board, P.O. Box 112250, University of Florida, Gainesville, FL 32611-2250.

Please sign one of the appropriate blanks below either indicating your agreement or disagreement to allow your child to participate in this study.

I voluntarily agree to allow my child, _________________________, to participate in Mr. Keith Herman's and Dr. Carolyn Tucker's Academic Success study, and I have received a copy of this description.

_______________________________ ____________________
Signature of Parent/Guardian Date

I do not agree to allow my child, _________________________, to participate in Mr. Keith Herman's and Dr. Carolyn Tucker's Academic Success study, and I have received a copy of this description.

_______________________________ ____________________
Signature of Parent/Guardian Date

APPENDIX C
TEACHER CONSENT FORM

TEACHER
INFORMED CONSENT FORM

You are being asked to volunteer as a participant in a research study. This form is designed to provide you with information about this study and to answer any of your questions.

The purpose of the study is to discover more about how students learn. The results of the study may allow us to help more students be successful in school.

Teacher participants in the study will be asked to complete a set of questionnaires for each student in their homeroom class. Each set of questionnaires will take about 10 minutes to complete for a total time investment of 3-4 hours. You will be given five days to complete the questionnaires for all of your students. Your name will not be written on any of the questionnaires so that your rights to privacy and confidentiality will be protected.

Following the study, you will receive a printed summary of the results. Also, the Principal Investigator will be available to answer any remaining questions or concerns that you may have about the study or the results.

There are no risks or discomforts anticipated for participants in this study. If you wish to discuss any discomforts you may experience, you may call Mr. Keith Herman or Dr. Carolyn Tucker, Principal Investigators, at (904) 392-9436 (your School Principal can help you contact the Principal Investigators). You may benefit from taking part in this study because the results will be used to help all students and teachers in your school be successful.

I have been fully informed of the procedure for the study described above, and I understand its possible benefits and risks. I also understand that I will receive no compensation for participating in this study. I understand that I am free to discontinue my participation in this study at any time. I agree to participate in this study, and I have received a copy of this description.

Signature of Teacher	Date

Signature of Principal Investigators	Date

Keith C. Herman, M.A.
(904) 392-9436, Box 124, Psychology

Carolyn M. Tucker, Ph.D.
(904) 392-9436, Room 253, Psychology

APPENDIX D
TEACHER-REPORT MEASURE

RAPS-T
Rochester Assessment Package for Schools
Teacher Report of Student Engagement

In my class, this student seems:	Very True	Sort of True	Not Very True	Not At All True
1. a million miles away.	1	2	3	4
2. happy.	1	2	3	4
3. relaxed.	1	2	3	4
4. anxious.	1	2	3	4
5. comfortable.	1	2	3	4
6. interested.	1	2	3	4
7. tuned-in.	1	2	3	4
8. sleepy.	1	2	3	4
9. bored.	1	2	3	4
10. angry.	1	2	3	4
This student:				
11. tries very hard.	1	2	3	4
12. does more than required.	1	2	3	4
13. pays attention.	1	2	3	4
14. works as hard as he/she can.	1	2	3	4
15. is interested in schoolwork outside of the classroom.	1	2	3	4
16. comes to class prepared.	1	2	3	4
17. does just enough to get by.	1	2	3	4
18. just tries to look busy.	1	2	3	4
19. thinks about other things in class.	1	2	3	4
20. does only what he/she has to in class.	1	2	3	4

Problem Behaviors

The next twelve items are designed to measure **how often** a student exhibits certain problem behaviors. Read each item and think about this student's behavior during the past month or two. Decide **how often** the student does the behavior described.

If the student **never** does this behavior, mark **1**.
If the student **sometimes** does this behavior, mark **2.**
If the student **very often** does this behavior, mark **3**.

Please do not skip any items. In some cases you may not have observed the student perform a particular behavior. Make an estimate of the degree to which you think the student would probably perform that behavior.

			How Often?	
		Never	**Sometimes**	**Very Often**
21.	Likes to be alone.	1	2	3
22.	Fights with others.	1	2	3
23.	Is easily embarrassed.	1	2	3
24.	Argues with others.	1	2	3
25.	Threatens or bullies others.	1	2	3
26.	Talks back to adults when corrected.	1	2	3
27.	Has temper tantrums.	1	2	3
28.	Appears lonely.	1	2	3
29.	Gets angry easily.	1	2	3
30.	Shows anxiety about being with a group of children.	1	2	3
31.	Acts sad or depressed.	1	2	3
32.	Has low self-esteem.	1	2	3

Academic Achievement Questionnaire

The next nine items require your judgments of this student's academic or learning behaviors as observed in your classroom. Compare the student with other children who are in the same classroom. Rate all items using a scale of 1 to 5. Mark the number that best represents your judgment. The number **1** indicates the lowest or least favorable performance, placing the student in the lowest 10% of the class. Number **5** indicates the highest or most favorable performance, placing the student in the highest 10% compared with other students in the same classroom.

	Lowest 10%	Next Lowest 20%	Middle 40%	Next Highest 20%	Highest 10%
33. Compared with other children in my classroom, the **overall academic performance** of this child is:	1	2	3	4	5
34. In **reading**, how does this child compare with other students?	1	2	3	4	5
35. In **math**, how does this child compare with other students?	1	2	3	4	5
36. In terms of grade-level expectations, this child's skills in **reading** are:	1	2	3	4	5
37. In terms of grade-level expectations, this child's skills in **math** are:	1	2	3	4	5
38. This child's **overall motivation** to succeed academically is:	1	2	3	4	5
39. This child's **parental encouragement** to succeed academically is:	1	2	3	4	5
40. Compared with other children in my classroom, this child's **intellectual functioning** is:	1	2	3	4	5
41. Compared with other children in my classroom, this child's **overall classroom behavior** is:	1	2	3	4	5

APPENDIX E
RAPS-S ADMINISTRATION INSTRUCTIONS

RAPS-S Instructions for Students (Read Aloud)

Today we will be completing the Rochester Assessment Package for Schools Student Survey (RAPS-S). This questionnaire was designed by researchers at the Institute for Research and Reform in Education to find out what students think about school. The researchers want your opinions so they can help your teachers and principals make school more interesting and enjoyable for you. So, please answer honestly; your opinion is important.

Remember there are no right or wrong answers, only your opinion. If any question makes you feel uncomfortable, you do not have to answer it.

Your answers will be kept confidential. Your I.D. number will be entered into a computer by researchers who do not know you. No one you do know--your parents, teachers, or classmates--will ever be told how you answered the questions. Your teachers and principals will be given information only about how groups of students responded. For example, they will be told whether eighth graders feel the same way about school as ninth graders; or, whether students in the school this year feel the same about school as students who were here last year felt. But, they will not be told how you as an individual answered these questions.

I will read each statement to you. Think about how that statement describes you. Then use a pencil to bubble in the response on the bubble response sheet that shows how true the statement is for you.

Thank you for your cooperation.

APPENDIX F
STUDENT-REPORT MEASURE

ROCHESTER
ASSESSMENT
PACKAGE
for
SCHOOLS

This questionnaire is not part of your schoolwork; you are not being graded. You don't have to answer any question that you do not want to answer. Your replies will be kept confidential.

Your answers will help us better understand what it is like being a student at your school. Your opinion will help us make schools more enjoyable for all. So, please answer each question honestly.

Thank you for your help.

1. My parents enjoy spending time with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

2. I work very hard on my schoolwork.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

When I'm with my teachers, I feel:

3. Good.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

4. Ignored.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

5. Happy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

6. Mad.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

7. Unhappy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

8. I can get my teachers to like me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

9. My parents make it clear what they expect of me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

10. I'm pretty lucky at getting good grades.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

11. My teachers are fair with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

12. I don't know how to keep myself from getting bad grades.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

13. My teachers talk about the connections between schoolwork and things in life.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

14. My parents never have enough time to hear about what happens to me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

15. My teachers let me decide things for myself.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

16. I don't know what my parents expect of me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

17. My teachers don't know me very well.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

Think of the last time something had happened to you in school (like not doing well on a test or not being able to answer an important question). Here are some things that students have told us they think and do after something had happens to them in school. Tell us how true the following things are for YOU.

When something had happens to me in school (like not doing well on a test or not being able to answer an important question):

18. I tell myself it didn't matter.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

19. I feel really stupid.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

20. I say it wasn't important.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

21. I say the teacher didn't cover the things on the test.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

22. I get really mad at myself.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

23. I try to figure out what I did wrong so that it won't happen again.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

24. My parents encourage me to find out how schoolwork could be useful to me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

25. The rules in my classroom are clear.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

26. My parents don't seem to have enough time for me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

27. I enjoy doing my schoolwork.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

28. My parents try to control everything I do.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

29. I have to be lucky to do well in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

30. I'm pretty smart in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

31. My parents don't explain why school is important.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

32. My teachers' expectations for me are way off base.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

33. I am unlucky in schoolwork.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

34. I don't try very hard in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

35. I can do well in school if I want to.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

36. I pay attention in class.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

37. My teachers don't explain why we have to learn certain things in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

38. My parents know just how well I can do in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

When I'm with my parents, I feel:

39. Good.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

40. Ignored.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

41. Happy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

42. Mad.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

43. Unhappy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

When something bad happens to me in school (like not doing well on a test or not being able to answer an important question):

44. I tell myself I'll do better next time.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

45. I worry that the other students will think I'm dumb.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

46. I say I didn't care about it.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

47. I say it was the teacher's fault.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

48. I try to see what I did wrong.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

49. I feel really terrible.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

50. I get angry at the teacher.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

51. I never know what my parents are going to do.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

52. I don't work very hard in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

53. If I don't do well on my schoolwork, it is because I didn't try hard enough.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

54. My parents do a lot to help me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

I wish:

55. I could talk about more things with my parents.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

56. My teachers would spend more time with me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

57. My parents knew more about how I feel.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

58. I felt better about myself.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

59. My parents talk about the connections between schoolwork and things in my life.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

60. My teachers don't seem to have enough time for me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

61. My parents ask me about what I do in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

62. I can't do well in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

63. When it comes to school, my parents are always telling me what to do.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

64. My teachers don't talk about how schoolwork is related to what I want to be.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

65. I try to learn as much as I can about my school subjects.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

66. I can't get my teachers to like me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

67. When I get in trouble at school, I know what my parents are going to do.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

68. My teachers have plenty of time for me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

69. I don't know what it takes to get good grades in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

70. My parents don't seem to know how I feel about things.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

Why do I do my homework?

71. Because I'll get in trouble if I don't.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

72. Because it's fun.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

73. Because I will feel bad about myself if I don't do it.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

74. Because I want to understand the subject.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

75. Because I like to do it.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

76. Because I'll be embarrassed if I don't get it done.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

77. Because I want to learn new things.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

When I think about myself, I feel:

78. Important.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

79. Unhappy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

80. Happy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

81. Bad.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

82. Proud.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

I wish:

83. I liked myself better.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

84. My parents knew more about how I feel.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

85. My classmates would spend more time with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

86. I could talk about more things with my teachers.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

87. When I'm in class, I try very hard.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

88. My teachers like to be with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

89. I know how my parents will act if I don't do my homework.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

90. I have to be smart to get good grades.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

Why do I work on my classwork?

91. So that the teacher won't get mad at me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

92. Because I want to learn new things.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

93. Because I'll be ashamed of myself if it doesn't get done.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

94. Because it's fun.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

95. Because that's the rule.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

96. Because I think it is important.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

97. Because the teacher says we have to.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

98. Because it is interesting.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

99. Because I'll feel guilty if I don't do it.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

100. Because doing well in school is important to me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

101. My parents don't let me make any of my own decisions.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

102. If I'm not smart, I won't get good grades.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

103. My parents don't make it clear what they expect of me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

104. My teachers aren't fair with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

105. I try to watch TV shows about things we do in class.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

106. My parents do what they say they are going to do.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

107. My teachers like the other kids in my classes better than me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

108. How important is it to you to do the best you can in school?

(1) Very Important (2) Sort of Important (3) Not Very Important (4) Not At All Important

---

109. My teachers think what I say is important.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

110. I won't do well in school if my teachers don't like me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

111. I can work really hard in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

112. My teachers care about how I do in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

113. My parents like to talk to me about school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

When I'm with my classmates, I feel:

114. Good.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

115. Ignored.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

116. Happy.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

117. Mad.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

118. Unhappy.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

119. The best way for me to get good grades is to get my teachers to like me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

---

120. When it comes to school, my parents try to control everything I do.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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121. When I'm in class, I just act as if I'm working.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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122. My parents are fair with me.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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123. I'm not very smart in school.

(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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124. My teachers don't make clear what they expect of me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

I wish:

125. My parents would spend more time with me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

126. I could talk about more things with my classmates.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

127. I were someone else.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

128. My teachers knew me better.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

129. My parents would talk with me more.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

130. My parents don't think I can do very much.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

131. I read school books even when they're not assigned.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

132. My teachers interrupt me when I have something to say.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

133. My parents know a lot about what happens to me in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

134. I can't work very hard in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

135. My parents don't talk about how schoolwork is related to what I want to be.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

136. Trying hard is the best way for me to do well in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

137. My parents trust me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

138. My teachers try to control everything I do.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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When I'm in school, I feel:

139. Happy.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

140. Comfortable.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

141. Angry.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

142. Bored.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

143. Good.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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144. I don't know what my parents want from me.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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145. I can't do well in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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146. My parents let me decide things for myself.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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147. If I'm unlucky, I won't do well in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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148. When I'm in class, I usually think about other things.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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149. My parents want me to do better than I can in school.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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150. I am so nervous during a test that I cannot remember facts I have learned.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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151. I have an uneasy, upset feeling when I take a test.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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152. I worry a great deal about tests.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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153. When I take a test I think about how poorly I am doing.
(1) Very True (2) Sort of True (3) Not Very True (4) Not At All True

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154. Who do you live with? Circle one.

My Mother and Father

Only My Mother

My Mother and Stepfather

Only My Father

My Father and Stepmother

My Aunt/Uncle(s)

My Grandparent(s)

Other(s)

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155. In which language do you prefer to read and speak?

(1) Spanish (2) English

156. In which language do you prefer to think?

(1) Spanish (2) English

157. How many times have you been asked to join a gang?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

158. How many of your friends belong to a gang?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

159. Do you belong to a gang?

(1) Yes (2) No

160. Have you ever brought a weapon to school?

(1) Yes (2) No

161. During the past 30 days, on how many days did you have at least one drink of alcohol?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

162. During the past 30 days, on how many days did you have five or more drinks of alcohol in a row, that is, within a couple of hours?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

163. During the past 30 days, on how many days did you use a drug other than alcohol?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

164. During the past year, how many times have you violated a law?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

165. During the past year, how many times have you been arrested by the police?

(1) 0 (2) 1-2 (3) 3-5 (4) 6-9 (5) 10 or more

MULTIGROUP ETHNIC IDENTITY MEASURE

In this country, people come from a lot of different cultures, and there are many different words to describe the different background or ethnic group that people come from. Some examples of the names of ethnic groups are Mexican-American, Hispanic, Black, Asian-American, Native-American, Anglo-American, and White. Every person is born into an ethnic group, or sometimes two groups, but people differ on how important their ethnicity is to them, how they feel about it, and how much their behavior is affected by it. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Please fill in:

I terms of ethnic group, I consider myself to be ____________________.

Use the numbers given below to indicate how much you agree or disagree with each statement.

1: Strongly Agree	**2: Somewhat Agree**	**3: Somewhat Disagree**	**4: Strongly Disagree**

____ 166. I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs.

____ 167. I am active in organizations or social groups that include mostly members of my own ethnic group.

____ 168. I have a clear sense of my ethnic background and what it means for me.

____ 169. I like meeting and getting to know people from ethnic groups other than my own.

____ 170. I think a lot about how my life will be affected by my ethnic group membership.

____ 171. I am happy that I am a member of the group I belong to.

____ 172. I sometimes feel it would be better if different ethnic groups didn't try to mix together.

____ 173. I am not very clear about the role of my ethnicity in my life.

____ 174. I often spend time with people from ethnic groups other than my own.

____ 175. I really have not spent much time trying to learn more about the culture and history of my ethnic group.

____ 176. I have a strong sense of belonging to my own ethnic group.

____ 177. I understand pretty well what my ethnic group membership means to me, in terms of how to relate to my own group and other groups.

____ 178. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.

____ 179. I have a lot of pride in my ethnic group and its accomplishments.

____ 180. I don't try to become friends with people from other ethnic groups.

____ 181. I participate in cultural practices of my own group, such as special food, music, or customs.

____ 182. I am involved in activities with people from other ethnic groups.

____ 183. I feel a strong attachment towards my own ethnic group.

____ 184. I enjoy being around people from ethnic groups other than my own.

____ 185. I feel good about my cultural or ethnic background.

BIOGRAPHICAL SKETCH

Keith C. Herman earned his bachelor's degree in psychology from the University of Puget Sound and his master's degree in counseling psychology from Chapman University. After completing his pre-doctoral internship training at the Veterans Affairs Medical Center in Salem, Virginia, in August 1997, he will earn his doctoral degree in counseling psychology from the University of Florida.

Keith has interests in teaching, clinical, and research aspects of counseling psychology. He has taught numerous courses in psychology and education including abnormal psychology, educational psychology, personal adjustment, and college study skills. His clinical interests include behavioral medicine/health psychology, multicultural counseling, and counseling older adults. In his primary research area, multicultural education, Keith has published articles on community-based interventions to improve the educational and social status of at-risk youth. His current research focuses on efforts to institutionalize a research-based model partnership education program, developed by his advisor, Carolyn M. Tucker, Ph.D. Keith also has research interests in counselor training and child abuse prevention. He has written articles regarding predictors of counselor competence and qualitative aspects of the counseling experience. He has also worked with community organizations to screen dangerous volunteers (i.e., sexual offenders) and to educate parents, children, and volunteers about child abuse.